TECHNOLOGY DEPT.

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · MACHINERY · PARTS · ACCESSORIES · TOOLS

Vol. 15. No. 1989 — Entered as second-class matter Aug. 27, 1925, Post Office, N. Y., N. Y. Under Act of March 3, 1879 — NEW YORK, THURSDAY, MAY 25, 1933 — 5 Cents. $12 Per Year.

PUBLIC LIBRARY MAY 25 1933 DETROIT

First Copy

N. A. C. C. Annual Meeting Set for Thursday, June 15; Lively Session Expected

President Alvan Macauley Hopes That Every Factory President Will Be Present With Executives; To Take Up Pressing Problems

New York, May 24.—It was announced here today by the National Automobile Chamber of Commerce that the regular annual meeting will be held this year on Thursday, June 15, instead of June 8, which is the regular date. The meeting will be held at headquarters here, 366 Madison Ave., beginning at 10 a. m., Daylight Saving Time.

The date for the meeting has been changed to insure a full attendance of presidents and their associates to consider the pressing problems that face the automotive industry as well as industry in general. Aside from action on automotive industrial requirements, there will be a speaker on the proposed national industrial recovery plan, with a discussion as to whether the industry should plan to operate under it.

To comply with the by-laws of the chamber it is to be noted that the official call is for June 8, with the understanding that the meeting will be adjourned until June 15. The N. A. C. C. directors will meet on Wednesday, June 14, at headquarters here, at 10 a. m. Three directors end their terms, Messrs. Brosseau, Macauley and Cord, and there are two vacancies to fill. President Macaulay of the chamber expresses the hope that every president will attend with any executives of his company.

QUAKER CITY BUYS SILVER FOUNDRY

Salem, O., May 24.—The Quaker City Foundry Company has purchased from the Mullins Manufacturing Company the foundry part of the former Silver Manufacturing Company plant.

The foundry has been occupied by the Quaker City company ever since its organization following the closing of the Silver company business. Mullins purchased the building and has been occupying all of the foundry as its plant No. 3.

Recently Mullins moved its equipment from the foundry to the main plant. The old Silver building will be used by Mullins largely as a storage plant.

Quaker City concern plans to expand its business and increase output of castings, many of which go to the automotive industry.

WHITE ANNOUNCES TWO NEW PROMOTIONS

Cleveland, O., May 24.—Promotion of Harry E. Seanor, vice-president and district manager of the Chicago region, to vice-president in charge of leading national account selling of the Central West, was announced today by George F. Russell, vice-president and sales manager of the White Company.

Seanor will be succeeded as district manager of the Chicago region by Edmund H. Taylor, who has been manager of the southern New England district, with headquarters in Worcester, Mass. Seanor will retain his headquarters in Chicago and in addition to his duties as vice-president will cover national and fleet accounts and assist in merchandising White trucks and buses in Minneapolis, Omaha, Kansas City, St. Louis, Indianapolis and Detroit.

MAY SALES UP FROM 1932 MARK; JUNE ENCOURAGING

Detroit, May 24.—Sales executives here are greatly encouraged by the reports that are being received in regard to May sales. In May, 1932, the total number of passenger cars sold was 131,000, and it is expected that this year the record will be in the neighborhood of 170,000. What makes this situation doubly encouraging is the fact that in May, 1932, the sales increase over April was greater than normal on a percentage basis. In other words, May, this year, is going to show a sales gain over the same month a year ago, which was better than normal.

The automotive industry always expects a sales bulge in the spring. This year, due to general conditions, the increase in sales was considerably delayed, but it certainly began to be apparent in May. Most sales executives believe that because of the late start, and for other reasons, the sales peak will run over into June. In a normal year, the tapering off in buying begins about the third week in May. There is no sign as yet of any such condition. As a matter of fact, sales continue to mount for most of the companies

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George M. Slocum Buys Automotive Daily News

ANNOUNCEMENT is made by O. J. Elder, president of the Automotive Daily News Publishing Corporation, of the sale of Automotive Daily News to George M. Slocum, Detroit, Mich., effective as of June 1, 1933.

Mr. Slocum will transfer this trade publication to Detroit on June 1. The new publisher has been Detroit manager of Automotive Daily News since its inception and is president of the Detroit Adcraft Club. Chris Sinsabaugh, former editor of Motor Age, Motor, Motor Life and American Motorist, will edit the paper with William C. Callahan as managing editor. Barbara Crighton, assistant advertising manager, becomes business manager.

HAY URGES DEALERS NOT TO NEGLECT BY-PRODUCT PROFIT

Chicago, May 24.—The by-products business which motor car dealers have allowed to slip away from them "virtually by default" can and should be recaptured, but not at the sacrifice of overallowances on trade-ins in connection with the dealers' new car activities.

So stated Thomas J. Hay, president of the National Used Car Market Report, Inc., Blue Book and Red Book publishers, today.

In stressing the importance of avoiding overallowances on used cars Mr. Hay made it clear that dealers who persist in that practice must either charge higher than competitors for their by-products, items and service, or yield the by-products and service volume to competitors in question. In either event, he said, they cannot make progress against the inroads of filling stations, super-service stations, tire sales stores, department stores and mail order houses.

"Many interests are now advocating that automobile dealers cultivate the by-products business intensively in order to support their new car transactions," stated Mr. Hay. "In years gone by a large share of the accessories slipped away from automobile dealers virtually by default.

"While automobile dealers had a profitable new car business, they lost these by-products sales, for during the fat years they did not consider the selling of tires, grease, oil, batteries and other accessories as especially important and profitable. Now they find themselves in the position of competing with solid-

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MOTOR INDUSTRY TO DOMINATE FAIR

Chicago, May 24.—As Saturday, the formal opening date of Chicago's A Century of Progress international exposition, approaches, it appears certain that the automotive industry is going to "steal the show."

With all buildings completed, ready and equipped for the inaugural of the fair, the automotive industry will be not only better represented than any other, but will also have among the most interesting exhibits housed in any of the buildings, despite the fact that this industry, far less than 100 years old, cannot point to a century of progress as some of the others can.

Just to get things in proper shape for the opening, two of the major exhibitors, General Motors and Firestone, have already been in test operation. General Motors is giving the limelight to Chevrolet with the assembling of cars of that make, while Firestone is building tires.

Chrysler, whose building rivals that of General Motors in size and beauty, has thus far been rather reticent over the complete story to be told by its exhibits, and the general impression is that this corporation has a number of surprises up its sleeve.

The third member of the automobile manufacturing group, Nash, has completed its tall, narrow building,

(Continued on Page 6)

N. Y. Metropolitan Sales in May Top Same Period 1932 by 30%

Dealers Feel Confident That Definite Turn Has Come And Look Forward to Continued Improvement As Season Advances

New York, May 24.—Sales figures for the metropolitan district, embracing the city of New York and surrounding territory, have been released by Messrs. Sherlock & Arnold for the second week in May. They continue to show a remarkable gain over sales in the same month last year. The figures for passenger cars are 2,818 for the first two weeks of May, 1933, as compared with 2,178 in the same week of 1932.

For the first two weeks in May total passenger car sales in the metropolitan district were 6,159, as against 4,748 in the same period of May, 1932. This is a gain of just under 30 per cent. for this crucial sales period and is by far the best showing made by the local industry since the depression started. Furthermore, dealers agree that there is no sign of a letdown. There is every reason to expect the buying upsurge to continue into if not through June. Predictions are being freely made that 1933 sales will continue to exceed those made in 1932 for the rest of the year.

WISCONSIN PARTS PLANTS REPORT IMPROVED BUSINESS

Milwaukee, Wis., May 24.—Reports of improved business continue to emanate from Wisconsin automotive concerns. The Walker Manufacturing Company, Racine, makers of automobile jacks, tire pumps, cranks, rim wrenches, etc., showed a 10 per cent. increase in April over the same month last year and will do better in May, according to Malcolm McCormick, vice-president in charge of sales.

The Walker company has started production on a new product, an electric lift, which can be installed anywhere, and is so designed that the lifting members do not interfere with access to any part of the automobile that has been lifted. The lifts are operated through an electric motor and four steel cables which are pre-stretched and anchored.

In La Crosse the number of employees at the Motometer Gauge and Equipment Company plant has

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PROGRESS SHOW HELPS CHICAGO CAR SALES

Chicago, May 24.—Although official sales figures are not yet available, reports from distributors and dealers to the Chicago Automobile Trade Association indicate that the Progress Demonstration Show being held here this week is producing results that are gratifying to the sponsors of the event.

Attendance at dealers' showrooms during the daytime and evenings has been excellent, one of the reasons being that the ancient cars entered in Saturday's parades have been placed in dealer establishments. This innovation is proving a lure for prospects. Dealers welcome these owner visits, since the opportunity is thereby presented to drive home the story of automobile progress, one of the chief lessons of the Progress Demonstration Show.

Salesmen are being kept busy filling appointments for demonstrations. Every prospect entering a dealer establishment and looking over the display is urged to take a demonstration ride as the best means of learning how far reaching the engineering advancements have been.

"Dealers are presenting the story of motor car progress in a manner different from any yet attempted in Chicago," stated Lafayette Markle, president of the trade association. "The technique is one of sharp contrast, with old and new models

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BAUER OF N. A. C. C. SAILS FOR EUROPE

New York, May 24.—George F. Bauer, manager of the export department of the National Automobile Chamber of Commerce and chairman of the World Trade League of the United States, sailed Saturday for Europe aboard the S. S. Bremen.

Geo. F. Bauer

Mr. Bauer will represent the motor organization as a delegate at the convention of the International Chamber of Commerce in Vienna, after which he will go to London to follow the proceedings of the World Economic Conference.

LOW PRICE CARS LEAD IN CANADA

Montreal, May 24.—More than half the cars sold in eastern Canada this year to date have been Chevrolets or Fords. Last year at this time sales of these two cars were slightly less than half of the total, although the total number sold was higher. Sales of the leaders for April and for the four months ended April are shown in the following table:

	April	April	4 Months Ended April	
	1933	1932	1933	1932
Chevrolet	1,279	1,633	3,113	3,937
Ford	847	522	1,640	1,477
Dodge	434	204	981	433
Pontiac	346	388	803	820
Plymouth	313	436	727	736
Buick	213	344	520	912
Chrysler	125	203	262	398
Essex	104	180	232	260
Frontenac	93	49	220	131
Willys	84	102	203	260
Oldsmobile	77	99	167	289
Rockne	73	104	146	134
De Soto	58	184	154	381
Studebaker	58	157	140	345

Three manufacturers have handled 87 per cent. of the business

(Continued on Page 6)

WHITE IN NEW YORK HOLDS BEER TRUCK SPECIAL EXHIBIT

New York, May 24.—A special showing of new trucks, designed and built specifically for the hauling of beer, is being held at the Long Island City branch of the White Motor Company, 31-10 Thomson Ave.. To this exhibit the leading brewers, brew masters and contract haulers have been invited are are responding in large numbers.

The exhibit includes the new White model 58 SS, which features a double-drop frame body for the carrying of keg or case beer. This unit has a loading height of but 25 inches, and is adaptable for either wholesale or retail delivery.

Other beer delivery units on display cover every phase of beer hauling, with especially designed bodies for light or heavy duty hauling, or for city, intercity and house-to-house delivery.

In conjunction with this exhibit a "pre-inflation sale" featuring a stock of $500,000 worth of new and used motor trucks and buses, is under way. There are on display five lines of new trucks, White, Indiana, Studebaker, Pierce - Arrow and Rockne, and a large assortment of used trucks of other makes.

"As we approached the peak of the spring buying season our inventories were so low that we decided to build these trucks in anticipation of inflation buying and to offer them for immediate delivery," says E. F. Hobbins, district manager.

"All of the units offered are either new or nearly new, and all new trucks are backed by our new car warranty. We are simply and plainly offering truck operators an opportunity to fill their transportation needs at pre-inflation prices."

ALBORN IS NAMED CHIEF ENGINEER OF WHITE COMPANY

Cleveland, O., May 24.—Frank G. Alborn has been promoted to chief engineer of the White Motor Company, succeeding H. D. Church, according to an announcement by A. G. Bean, president.

Since 1925 Alborn has served the White company as assistant chief engineer and has been actively engaged in the development of the present White line of trucks and buses.

He came to America shortly after having graduated from Polytechnic Institute, Malmo, Sweden, in 1902, and took a position with the American Steel and Tube Company of Bridgeport, Conn.

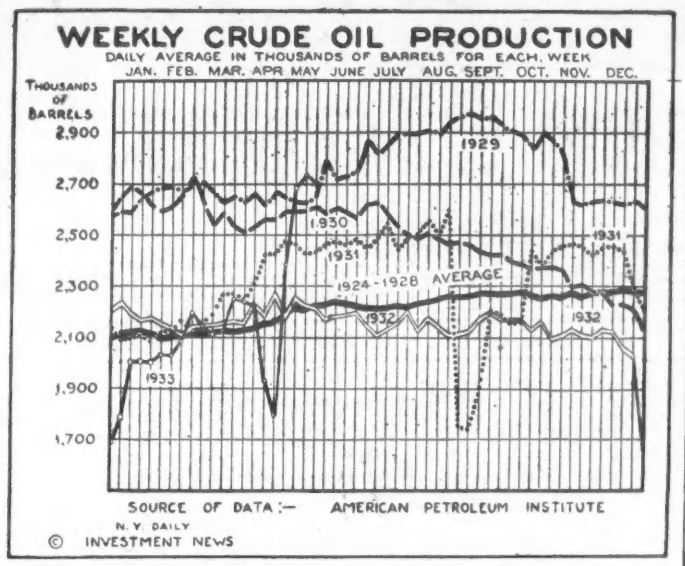
In 1903, when the automotive industry was in its infancy, he became a draftsman with the Locomobile Company of America, also of Bridgeport, and remained with this concern until 1920, being successively promoted from draftsman, designer and chief draftsman to designing engineer.

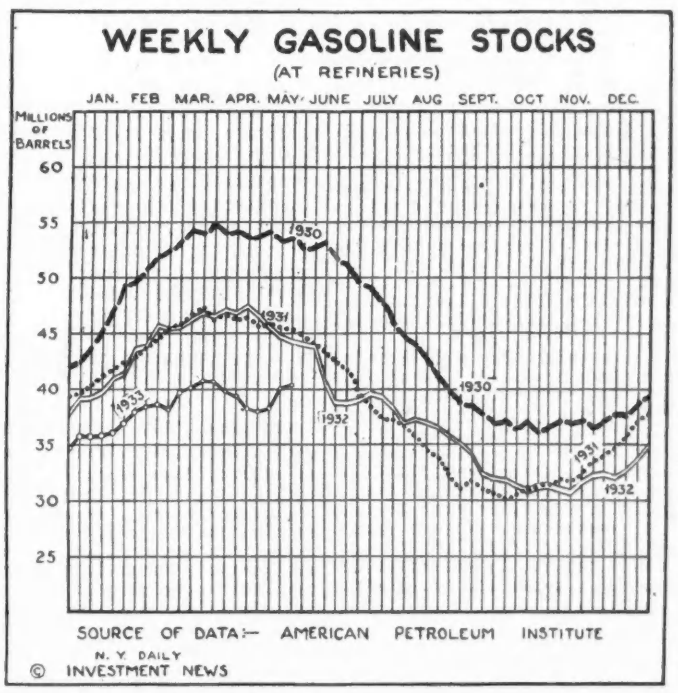
MAY SALES UP FROM 1932 MARK; JUNE ENCOURAGING

(Continued from Page 1)

and it looks as if they would continue to do so into June before any tapering off begins.

From this vantage point it looks as if production for the first half year would run not so far off the 1,000,000 mark. This would compare with 911,000 vehicles turned out in the first half of 1932. Normally, production drops rather sharply in the last half of any year, but there are exceptions, and this year may be one of them. When our industry was recovering in 1922 from the slump immediately following the war, production was larger in the final six months than in the first half. It is possible that history may repeat itself in 1933. On the basis of somewhat under 1,000,000 vehicles for the first six months of 1933, the production for the year, following the usual pattern of a reduction in the last half, would run to about 1,600,000 vehicle units for the year. This would compare with 1,431,000 units turned out in 1932.





WISCONSIN PARTS PLANTS REPORT IMPROVED BUSINESS

(Continued from Page 1)

been doubled in the last five weeks, and the working hours have been tripled, according to Byron Fay, general manager. The plant has increased its pay roll to 700 employees.

In Milwaukee the Heil Company has received an order for the manufacture of 163 steel tanks from the Schlitz Brewing Company. Heil is now empoying about 250 men in its various departments, and it is expected that the Schlitz order will create jobs for 100 more.

PROGRESS SHOW HELPS CHICAGO CAR SALES

(Continued from Page 1)

side by side to stress the differences between them.

"The reaction of car owners visiting dealer salesrooms is to appreciate how much improved the new cars are as compared with the ones they drive. Their impulse is to trade in their present automobiles, especially if they are driving cars five or more years old. We are confident that the week of this show is ushering in a period of continued and increased buying activity."

DEVELOPS METAL SPRAY

Los Angeles, May 24.—Under a new process developed by the Metallizing Co. of America, metal is melted and sprayed on to various surfaces by a gun. The process is claimed by this company to make repainting unnecessary, to reduce corrosion, to weatherproof perishable articles, to permit of new decorative effects and to effect reductions in plant upkeep.

Metal is sprayed on surfaces at a high rate by the metallizing sprayer. Several types of metal can be used in the gun, including zinc, nickel, aluminum, lead, bronze, copper, Monel metal, brass and tin. The metal is fed into the gun in the form of a small wire and is forced by air pressure through the sprayer. Oxygen and acetylene melt the metal, which is then applied to desired surfaces under air pressure. Before the application the surface is roughened by a steel blast.

Among uses in the automobile field are giving cylinder heads an aluminum coating, thereby making it possible, it is claimed, to use the cheap gasolines more efficiently. Worn shaftings can be built up and gasoline tanks relined without leaving a seam, it is claimed.

J. S. MARVIN RETIRES AS PRESIDENT OF TRADE EXECUTIVES

New York, May 24.—"In the co-operation within each industry as represented by trade associations, business has found the leadership necessary to handle questions of minimum wages, working hours and trade practices that would be fair to industry, its workers and the public," declared J. S. Marvin of the National Automobile Chamber of Commerce yesterday on his retirement as president of the Trade Association Executives of New York.

Mr. Marvin is being succeeded by Joseph C. Fitts of the Heating and Piping Contractor's National Association as president of the T. A. E. Harry Meixell, former secretary of the Motor Vehicle Concerence Committe, has been elected secretary and treasurer of T. A. E. Mr. Meixell is now secretary of the Music Industries Chamber of Commerce.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

SPARKS from DETROIT

Shaking the Plums

* * *

De Luxe vs. De Lux

* * *

Franklin Busy

* * *

Beer Barrels

* * *

Chris Sinsabaugh

Detroit Editor

THERE is one plum in connection with the 500-mile race at Indianapolis on Decoration Day that automobile manufacturers grab at—furnishing the pacemaking car, which holds the contestants in orderly line for a lap that sends the field off to a flying start.

This time it is to be a Chrysler Imperial roadster, with the driver of it none other than Byron Foy, president of the De Soto unit, one of the youngest brass hats in the industry.

There are two other makes which will have places in the race picture. Officials of the American Automobile Association will use an Oldsmobile eight in their trips to and from the track, while Eddie Rickenbacker, president of the speedway and also chairman of the A. A. A. Contest Board, will put on a lot of dog riding around in the Pierce-Arrow Silver Arrow, the $10,000 sport job that has been labeled the Koh-i-noor of the motor industry.

* * *

STEVE HANNAGAN, director of publicity for the big race, is oozing out the appointments one by one, sorta nursing his stuff. His latest is the announcement that Gar Wood, motor boat champion, has been selected again as starter, but as yet no referee has been named. That job is usually handed out to some celebrity like Henry Ford, Harvey Firestone or Vincent Bendix, who have served in the past, but at this writing your commentator is in the dark as to this year's choice.

* * *

BY THE WAY, Hannagan is resigning after this race to join the advertising agency of J. Walter Thompson, handling the new accounts department. Hooking up with advertising, Hannagan's appointment recalls that some twenty years ago he was advertising manager of Stutz. That's when he earned his reputation of being the best-dressed advertising manager in the industry.

* * *

"PLEASE KEEP MY NAME OUT OF IT," is the request of a contributor. With his identity concealed, I pass along his protest against the mispronunciation of a much-used word, as follows:

"Just as a little conversation suggestion for your column, you might undertake to educate the automobile boys in the pronunciation of the word 'de luxe.' The way it is used so commonly in the trade evidently means that a car is 'all to the soap.' But, as a matter of fact, 'lux' is a dirrerent word from 'luxe.' Otherwise there wouldn't be the 'e' on the end of the latter."

* * *

HUGH GOODHART, advertising manager of Franklin, writes from Syracuse that I may be interested in the Franklin pay roll, and a mild boast is permitted because of the fact that said pay roll in May will be in excess of those of February and March combined.

Two weeks ago deliveries by dealers showed betterment over the corresponding week in 1932. Since then succeeding weeks have continued this improvement. Compared with previous records in 1933, May is running ahead of April, "Goody" avers, and April, just closed, was the biggest delivery month this year. May is showing particularly strong on the new Olympic model, and will be the largest month on the Olympic since introduction.

"You may have noticed from comparisons of first quarter's registration, just available, that Franklin is performing relative to last year better than the average of the fine-car class," winds up the Syracuse optimist.

* * *

THE RETURN OF BEER already is paying dividends to Murray Body, which has developed a whale of a by-product in the manufacture of insulated steel barrels for the brewing industry. This means the employment of an additional 400 workers at the Murray plants. Murray bought 300 tons of steel for orders already on hand, and it is estimated that weekly requirements from now on will run in the neighborhood of 150 tons.

This new barrel is made of heavy rustproofed steel, formed of two sections, an inner container and an outer shell, which is welded to the container. The air spaces between the two sections are filled with insulating material.

Retail Salesmen — This Is Your Page

This department is devoted to the interests of the retail sales division of the industry. Salesmen, this is your department. Automotive Daily News wants you to get something from this department that will help you in your work on the firing line. It wants you to pass on your own experiences, success, failures to help your brother salesmen. Send in your story in the form of a letter, or even a postal card, and let us get it ready for publication. Your achievement or your mistake may help another salesman to make sales or avoid errors that cost you commissions.

Dealers read this page. Give us the benefit of your reactions on these problems that affect the work of your salesmen, the men on the firing line, the men who bring home the bacon or don't.

BIG CITY SELLING PROBLEMS

(Second Installment)

We all know that the most desirable contact to make on a competitive owner is a personal contact, but we all know that personal contacts are difficult to make and consume a lot of time and travel unless our way is paved to make them.

The most effective way to pave our way is by a telephone solicitation. Telephone solicitations on competitive owner lists are a very important part of every retail salesman's program, and at least one hour a day, in half hour periods, should be devoted to this activity.

How to use a telephone—when to use it and how to get the most out of it, is fully described in a program that has already been sent to your dealer covering telephone solicitations, and we strongly recommend you carefully study this program, as it will help you in making proper competitive owner telephone contacts.

You cannot hope to sell a competitive owner a new or used car over the telephone, and the only purpose of the telephone call is to arrange a personal interview.

Direct-by-mail campaigns, either those gotten out by the factory or the dealer, prepare the way for salesmen to make a personal contact.

Penny postal cards with a special hand-written message by the salesman have also proven to be very effective. In fact, we may say that any direct-by-mail preceding telephone calls is highly desirable, because it paves the way for a better telephone contact as well as a better personal contact.

Making personal contacts on competitive owners without paving the way by a telephone call or direct-by-mail has been difficult for some salesmen, particularly if they work in apartment building areas.

Some salesmen in order to get the best out of their work, particularly in apartment building neighborhoods, have ascertained the approximate time the mail man covers the street. Some mail men give two quick rings on the bell and we know that most people will respond to that kind of ring by opening the door.

Other salesmen when working apartment building areas have secured better results by going to the back door.

Your approach is very important in connection with this work. A pleasant greeting and a pleasing smile are extremely important.

Your opening remarks might be something like this:

"I am the Pontiac zone supervisor for this neighborhood, and I would like to leave a piece of literature that describes our new cars.

"If the record I have is correct, you are now driving 1930 Blank car. If we could make you a satisfactory allowance, would you be interested in trading it in now?"

From there on your conversation will naturally be carried forward as best meets the conditions.

Experience has proven that when making solicitations of this kind, it is best not to introduce yourself or to give your firm name, for the reason that the person is a stranger to you and is not interested in who you are or who you work for, and is only interested in knowing why you are calling.

If a salesman will practice various types of approaches that come to his mind, after a little time he will develop two or three that he can use best.

It stands to reason that when salesmen are working in territories that consist mainly of homes or business houses, little difficulty is experienced in getting in and good work can be accomplished.

When working in neighborhoods consisting mainly of homes, work between 7 and 9 p. m. is most effective.

Many retail salesmen have made a great success, in addition to carrying out the activities that have been outlined previously, by working vocationally, and by that we mean working on a certain trade or trades.

For instance, one salesman has concentrated mainly on men connected with the fire department. He has built up a large clientele—he is well known to them and all of these men in turn are on the lookout for prospects for him.

Other salesmen have concentrated on insurance men. Others on doctors, etc. By working vocationally, the salesman becomes acquainted with the habits, needs and desires of a certain class of men, and can better talk their needs in their own language.

Some of the vocations that present good opportunities are as follows:

Insurance men, postal employees, milk wagon drivers, real estate brokers, policemen, janitors, dentists, building tradesmen, city employees, railway employees, truck drivers, large department stores, restaurants, physicians, telephone employees.

The classified Telephone Directory furnishes a wide selection of vocations.

We should also remind salesmen that church organizations, clubs, lodges, legions and other similar organizations present a very splendid opportunity for sales, and men who are active in organizations of this kind are not only able to make sales to members, but the members in turn will furnish names of others who are prospects for both new and used cars.

The best way to get results from organizations of this type is for the salesman to first make himself acquainted with the leaders and let them know that he is making his living selling new Pontiacs as well as used cars. These leaders in turn will introduce you to others in the organization, which gives you an opportunity to build up a wide acquaintance.

Let every one you come in contact with in connection with organization work know what you are doing. Ask them to get you in touch with others and the results will be worth the effort.

If it is possible for you to become more active in organizations of this kind without taking too much of your time, it is advisable for you to do so.

Certain vocations make it almost necessary for the men to own an automobile; in other vocations the income justifies the owning of a motor car.

For instance, milk wagon drivers drive to their central depot and park their cars while they are en route. Insurance men go to their central office in automobiles, park them outside while they have their morning meetings. Trades people drive to their work and leave their cars parked on the outside.

A plan that has been used highly successfully is for the salesman to first spot such cars at such locations and look them over carefully for apparent needed repairs, tires, etc.

This can be done very easily by using a regular appraisal form, which will assist him in summarizing the repairs such cars need.

He can then approach the owner of such car, and is in a better position to talk intelligently, for the

(Continued on Page 4)

DEALER DOINGS

SAN ANTONIO, TEX.

Automotive dealers of this city were hard pressed this week to furnish sufficient transportation for the large number of musical organizations which took part in the Music Week parade, opening National Music Week. Practically every dealer furnished one or two cars, with the popular priced models being more in demand. Some day automotive dealers may awaken to the expense incurred through such "charity" and change their policy. (Apologies to Mr. Brisbane.)

* * *

The C. H. Mountjoy Parts Company, automotive wholesalers, with headquarters in this city and branches in Austin, McAllen, Corpus Christi, Houston and Beaumont, have been showing a film, "Thru Traffic," produced for the Perfect Circle Company, to large crowds in these respective communities. The local showing was sponsored by the G. E. Auto Supply Company, in addition to Mountjoy.

* * *

Free inspection service is being offered this week by the Winerich Motor Sales Company as an inducement to stimulate more business in their service department, and at the same time move people to have their cars tuned up for summer driving. J. B. Camp, service manager, is in charge.

* * *

PITTSBURGH, PA.

Headquarters of the Pittsburgh Automobile Dealers' Association have been moved from 801 Highland Building to Suite 200 in the Werner Building, 124 South Highland Ave. The new location is only a short distance from the former quarters. Secretary W. N. Owings reports that the work of the association can be handled more expeditiously in the new offices.

* * *

A large number of Pittsburgh auto dealers attended the recent funeral of Christopher G. McKinley, partner in the McKinley-Gregg Automobile Company, who died at his home, 6588 Beacon St. He had been in the automobile business for twenty years in Pittsburgh, holding the Franklin distributorship over a long period of years in partnership with Frank B. Gregg. The firm recently took the Lincoln and Reo agencies for this district. McKinley was a member of the Pittsburgh Automobile Dealers' Association at the time of his death.

* * *

Formerly conducted at two separate locations and as individual establishments, the Oldsmobile retail store and the Pontiac retail store have been combined and will operate at 471 Mellwood St. W. T. Minor, B-O-P zone manager, announced the appointment of Frank J. Williams as general manager of the new store and Charles H. Snyder as sales manager. The combination offers greatly improved facilities to Oldsmobile and Pontiac owners in service as well as sales capacity. The service station will be under the supervision of J. V. Kennedy.

* * *

George H. Dreher, well known in Pittsburgh automobile circles for twenty years, has joined the sales staff of the Royston Cadillac-La Salle Company, according to an announcement by Henry D. Eirman, general manager of the organization.

* * *

The William H. Bingler Company, one of the largest buyers and sellers of used cars in Allegheny county, has moved into the large quarters formerly occupied by the Pierpoint Motor Company. Increased business justified taking the larger quarters and enlarging the capacity of the company.

* * *

At the annual meeting of the stockholders of the Royston Cadillac-La Salle Company, George B.

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OUR LEADING DEALERS

And How They Got That Way

A series of brief biographies of outstanding motor car and truck merchants.

JAMES F. WATERS

De Soto and Plymouth Distributor in Northern California

James F. Waters, who distributes De Soto and Plymouth cars from his San Francisco headquarters to most of northern California, is this month celebrating his eighth anniversary as an automobile merchant.

JAMES F. WATERS

Eight years ago James F. Waters decided that he wanted to go into the automobile business. To him it typified speed and energy, and he wanted to get into it. He began, as so many of our leading automobile merchants have done, in the used car branch of the industry. After three years of this, during which he increased his sales and raised his manpower, he branched out into the new car field, taking an associate dealership for De Soto.

But the position of "associate dealer" didn't fit in with the ideas of Mr. Waters. Not a bit. He wanted to be on his own. But he continued to saw wood as an associate dealer. Soon the factory sales officials began to prick up their ears. "Look at this fellow Waters; he's making records out on the Coast," they remarked. And in December, 1929, James F. Waters became a De Soto dealer in his own right.

From the beginning the Waters institution began to grow. At the end of his first year De Soto was in second sales position, excluding the three low-priced cars. The years 1930, 1931 and 1932 saw the same result, with always the margin of leadership between first and second position closing up. Last year only nineteen cars separated De Soto from the top ranking automobile in San Francisco. And as San Francisco goes, so goes northern California.

This year, with an auspicious start in January and February, the De Soto executive has set his quota at 4,000 De Soto and Plymouth motors by the end of December. The total is almost twice as much as last year's actual sales—and the mere setting of such a goal is typical of the man's caliber in facing slowed-down economic conditions in this fighting manner. For when businesses in general were losing money or groping along, the James F. Waters institution has been building up to bigger things year by year through the worst period the nation has ever known. With the turn of the tide, what then will be the heights reached? That is the question his countless friends continually ask.

At the present time the various staffs of the Waters organization—including service, sales and administrative departments—number more than 150 men and women. And every person in the group looks to the personal leadership of the "boss," realizing that each department has grown to its present size from the time when it was just another part of the voluminous mass of detail on his desk not so many years ago.

No appointment or task is considered too big or too small to rate the personal consideration of the man who has been building and still is building this monument to speed, energy and clear, fast thinking. More than one hundred important appointments, conferences or deals are personally handled every day of the year by James F. Waters, it was estimated by his secretary. This schedule of the day rolls along with dispatch and rhythm, between the hours of 8 in the morning and 7, 8 or 9 at night, and the doors of his private office are never closed, nor are the incoming telephone calls shunted through secretaries. Two desk telephones handle the "open-door" policy on the thousands of messages constantly coming in from friends and dealers.

Among interesting facts connected with the growth of the De Soto-Plymouth distributing headquarters is the loyalty given to San Francisco by the factory executives, as a direct result of the strenuous work being done. When the new Plymouth de luxe six was announced nationally recently, San Francisco, through James F. Waters, had viewed the cars two weeks before. Flying east, his twenty-fourth eastern trip in the interest of the territory, the De Soto chieftain arrived just at the time that the first cars were coming off the line. No

(Continued on Page 4)

BIG NEWS EDITION
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Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday, Monday and Holidays, and Tuesday, When a Holiday Falls on Monday
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION
350 Hudson St., New York, N. Y.
O. J. Elder, President. H. A. Tarantous, Vice-President. Alexander Johnston, Secretary.
Entered as second-class matter, August 27, 1925, at the post office at New York, N. Y., under the Act of March 3, 1879.
350 Hudson St., New York, N. Y. Telephone CA nal 6-1000

MEMBER A. B. C.

Mail subscriptions to CIRCULATION DEPARTMENT, 1926 Broadway.
Telephone TR afalgar 7-4500

Subscription Rates: One year, $12.00; two years, $20.00, for United States and Canada, also Mexico, Cuba and Panama
To Other Countries: One year, $15.60; two years, $26.00. Single copies, 5 cents.

THURSDAY, MAY 25, 1933

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Signs of the Times

WITHIN the past three or four weeks, signs of business betterment have multiplied to such an extent that even our professional pessimists can no longer deny that they exist.

We do not have to go beyond our own industry to find them. April sales are running just a shade below the levels attained last year and automotive revival in April was still in an embryo stage of development. Every early report that we have had on the progress of motor vehicle sales in May indicates that this month will surpass the same period of 1932.

Turning to other industries we find many of them achieving new levels of activity. The latest reports from the steel industry indicate that this basic business has reached an output of about 43 per cent. of capacity, by far the best level in nearly two years.

The consumption of electric power has been showing substantial gains and this is a fundamental factor in industrial activity.

Railway freight totals have begun to climb after months of sinking lower and lower. This is a very important factor in indicating increasing business activity, and when sales keep pace with it, freight loading is a definite proof of betterment.

The shoe industry has been showing definite signs of revival, and the carpet division of the textile industry has awakened from a long sleep. Lumber companies report a marked increase in orders for the first time in just about two years.

Bank clearings are moving upward in many places, and the Federal authorities are permitting closed banks to reopen in increasing numbers. Obviously improvement in the banking business is a sure indication of increasing activity in business and of greater generosity in individual spending.

Improvement in industrial activity has kept pace with betterment in the prices of many basic products. Wheat has reached the best price since 1931. Corn, rye and other crops have reacted to this advance in the great agricultural staple. Growers of hops have been overjoyed by the boost that legalized beer has given their product.

Cotton, wool, hides, dairy products, sugar, all have shown signs of increasing strength, bringing a return of prosperity to many sections of the country.

It is a notable fact that the minute any one of the major crops or products has shown a strengthening in price, the particular section which produces it or them has immediately noted an upward swing in motor vehicle buying. As soon as cotton began to enjoy a price uplift, the Southern states started buying increased numbers of cars. When wool went up, the mountain states, where sheep raising is an important industry, at once began to order new cars.

One of the most encouraging features of this increase in industrial and business activity is the general agreement not to be stampeded into any feverish boom. President Roosevelt set an example of this with his warning that we must not accept an increase in the prices of securities as a complete proof that prosperity has come back in a single bound.

The general situation is eminently encouraging. The government is taking steps that are needed to "set" the revival now in progress and gradually lift business to what we have been pleased to call "normal" levels.

In the meantime our job is to redouble efforts, particularly for sales, which will carry us along the upward trail toward the degree of prosperity that a working nation of 120,000,000 people have every right to expect.

BIG CITY SELLING PROBLEMS

(Continued from Page 3)

reason that he can point out the apparent cost he will go to very shortly to put his car in good condition.

He can also point out that instead of spending the money for repairs, is can be applied as part payment of a new car, and in other ways bring up the subject of new motor cars.

We recommend you locate such plants, offices, etc., in the neighborhood you work. Get to knew something about the habits of the men who work in these places so that you will know the most convenient time to aproach them—but know something about their cars before you make the approach.

We have previously mentioned that we do not recommend going from door to door ringing bells, particularly in apartment building areas, for apparently the results are not worth the effort expended.

We do emphatically state, however, that the various business streets and commercial sections of Chicago do offer a splendid opportunity for straight, cold canvassing work, mainly from the standpoint that they are easily accessible. The territory to be covered is small and the persons who are in business usually have money, otherwise they would not be in business.

Again we state they are effective, because if the merchants you call on are not themselves interested in a motor car, in many cases they can tell you of others who are interested, for the reason that they come in contact with so many people.

The commission card plan may be effective in connection with this work.

Do not attempt to make such calls during the noon hour or late in the afternoon, as merchants are usually very busy at that period.

The most effective time is early in the morning or mid-afternoon.

Certain outlying sections of Chicago consisting mainly of home owners offer good possibilities for cold canvassing and the same technique and approach that has previously been recommended for contacting competitive owners can be used in connection with this kind of work.

Large office buildings also offer an opportunity for effective work for the same reasons as outlined under canvassing merchants in business sections.

Good results are always obtained by salesmen taking a demonstrator, with proper signs, and parking it at prominent corners, and by handing out literature to the people who pass, they are able to contact with many persons whom they could not otherwise reach.

The same is true of placing demonstrators at larger manufacturing places, particularly at noon and closing time.

Saturday afternoons and Sundays can be used to good advantage working the alleys, as many people have the habit of cleaning and greasing their cars at that time, the doors of their garages are open and contact is relatively easy.

Salesmen should attempt to make connections with towing companies who tow the wrecks off our streets, as owners of these wrecks are a splendid source of prospects.

While it is difficult, salesmen who can make a connection with the stolen car department can use it to their advantage.

Insurance adjusters are also men to become acquainted with, because they not only know of the wrecks, but the stolen cars as well.

Oakland and Pontiac owners coming to our service stations for service work, without a question, are the most valuable contacts salesmen can make in connection with new and used car sales, and while this activity comes more or less under what would be known as floor duty, still we mention it in this program because of its importance.

More important perhaps than anything else is the salesman's ability to properly arrange his work for the day. The salesman's only asset is his time. He must use every hour of it for profit. He cannot afford to waste one hour waiting for some one to walk in.

It is difficult to get out of old habits and to adopt new methods of working. It is easier to work the old fashioned way. However, conditions change from year to year, they are entirely different today than they were yesterday, and retail salesmen must change with them and adopt new programs.

Regardless of temptations, set aside a portion of each day for certain activities and then follow them faithfully. Don't put them off until tomorrow—do them today.

On your way to work be on the lookout for wrecks and stalled cars and take down their license numbers.

Perhaps you can spend a few moments with a motorist who is stalled and give him a lift. Perhaps you can pick up two or three people waiting for street cars (preferably men). They will appreciate the favor and may tell you of persons who may be interested in motor cars.

Before your sales meeting spend a few minutes in the service department and get acquainted with owners, and perhaps give a demonstration or two.

Set aside at least one hour each day for contacting Oakland and Pontiac owners.

Spend one hour of your day canvassing the business districts and calling on competitive owners.

During your lunch hour get acquainted with the manager of the restaurant and have him, if possible, introduce you to others coming in for lunch.

Use from thirty to forty-five minutes of your time with a demonstrator on a prominent corner or before a large factory and pass out literature.

Devote at least one hour to getting new prospect getters among garagemen, filling station attendants and others who freely come in contact with people.

Spend one hour, in half-hour periods, after 7 p. m., making telephone solicitations.

Use one hour to carefully prepare your work for the next day.

Of course, you will be spending some of your time with live and hot prospects, but be sure to use the balance of the time locating new ones.

No one yet has discovered or invented a sales system that works without effort. It is the day after day, week after week, and month after month ever at it, plugging away, driving for business, that brings the big pay envelopes and wins rewards.

That is really a story all of its own. Enthusiasm is the very life blood of any salesman—not only being enthusiastic about your product and giving an enthusiastic sales talk, but being enthusiastic about the work you are doing.

It is not so much sales ability that is needed today to sell at retail, as it is the ability to find prospects. One sales executive expresses it this way: 10 per cent. sales ability—90 per cent. ability to locate buyers.

Retail selling is enjoyable work—it brings you in contact with many people—your experiences are varied—you are free to come and go as you please—you are your own boss. If you can make it profitable, certainly you have a beautiful combination.

When salesmen fully realize that it is their ability to find prospects that really counts, that is when we will solve our retail problems and make it profitable for retail men.

In offering this program the writer is not attempting to draw on his imagination, but is giving you the benefit of ideas collected from successful retail salesmen.

COMING EVENTS

MAY

30—**Indianapolis, Ind.** Annual 500-mile International Sweepstakes.

JUNE

5—**New York.** Annual meeting of National Automobile Chamber of Commerce.

11—**Detroit.** Automobile race.. State Fair Grounds.

12-15—**Boston, Mass.** National Association of Purchasing Agents, eighteenth annual International Convention and Informashow, Hotel Statler.

12-16—**Chicago.** American Oil Burner Association meeting, Stevens Hotel.

16-17—**Louisville, Ky.** American Automobile Association meeting.

18-July 2—**Bordeaux, France.** Automobile, nautical and aeronautical show.

26-30—**Chicago.** American Society of Mechanical Engineers, meeting.

26-30—**Chicago.** American Society for Testing Materials, meeting, Stevens Hotel.

JULY

1- 4—**Chicago.** American Air Races, Municipal Airport.

10-14—**Chicago.** Automotive Engine Rebuilders Association, meeting.

16-18—**Chicago.** National Team and Motor Truck Owners' Association, thirty-first annual convention, Palmer House.

AUGUST

28-Sept. 24—**Chicago.** Chicago Society of Automotive Engineers, International Automotive Engineering Congress, Palmer House. (This meeting will be wide in scope to take in the activities previously covered in the summer meeting and the aeronautical meeting.)

SEPTEMBER

1—**Detroit.** Gold Cup Automobile Automobile Races.

11-15—**Chicago.** American Chemical Society, meeting.

20-22—**Atlantic City, N. J.** National Petroleum Association, Traymore Hotel.

21-22—**Chicago.** National Association of Motor Bus Operators, Congress Hotel.

OCTOBER

..... **Paris, France.** Twenty-seventh International Automobile Exhibit.

2- 6—**Detroit, Mich.** National Metal Congress.

2- 6—**Chicago.** National Safety Congress

5-15—**Paris, France.** International Automobile Salon.

12-21—**London, England.** Twenty-seventh International Automobile and Motorboat Show.

23-28—**Chicago.** Motor and Equipment Manufacturers Association, National Automotive Maintenance Exposition, Herbert Buckman, manager.

24-26—**Chicago.** American Petroleum Institute, meeting.

27-28—**Chicago.** National Standard Parts Association, convention, Stevens Hotel.

30-Nov. 3—**Chicago.** National Standard Parts Association, trade show.

NOVEMBER

..... **Chicago.** National Battery Manufacturers Association, fall meeting. (Date to be announced later).

JANUARY

6-13—**New York.** New York National Automobile Show.

Biography

(Continued from Page 3)

one in the United States knew of this impending announcement, and orders had been given to keep out each and every automobile distributor who happened to come to Detroit. When L. G. Peed, De Soto sales manager, walked out into the plant to see the cars for the first time, he surprisingly found none other than "Jimmy" Waters standing there at the end of the assembly line passing inspection—and it was the first time he knew that the San Franciscan was in town. Mr. Peed realized that the joke was on him and on the men responsible for keeping the gates barred, and he responded nobly by awarding the advance showing of the cars to San Francisco territory.

Here are some of the achievements "Jimmy" Waters has registered in his eight years as an automobile dealer:

More than 11,000 new De Soto and Plymouth cars sold during the past four years.

More than 12,000 used cars sold during the same period.

James F. Waters established as the largest buyer in units of automobiles on the entire books of the Chrysler Corporation, including all divisions.

De Soto in second sales position in San Francisco, exclusive of the three low-priced leaders, for the past four consecutive years. This showing compares to eighth place nationally held by De Soto in 1932.

Enlargement from two counties distribution in 1929 to the entire northern California field for distribution, with more than forty dealers served by San Francisco headquarters.

Leaders in increasing the size of the local "Plymouth Parade" since the introduction of floating power; selling more than 55 per cent. of the Plymouth cars delivered in San Francisco.

Establishing the James F. Waters Securities Corporation in August, 1932, and surpassing the million-dollar mark in contracts written in six months' time.

Coincident with the marking of this eighth anniversary in May, retail and wholesale sales figures for the month of April, 1933, demonstrated that another current record takes its place with the foregoing sustained records—in April last, one of the best retail selling months since the 1929 "palmy days" of all businesses was recorded, with more than 300 new motor car units being sold to owners locally or delivered to dealers in the northern California chain. This mark represents a large percentage gain over April of the previous year.

ENGINEERING FACTS ABOUT ALCOHOL FUEL BLENDS

(Second Installment)

"A gasoline working at the degree of compression ordinarily used for gasoline mixtures will, in general, require 50 per cent. more denatured alcohol than gasoline per brake-horsepower hour."

"In existing engines designed for petrol, one gallon of alcohol is equivalent to about two-thirds of a gallon of petrol."

When tests are properly conducted equivalent results are invariably obtained. This means an increase in fuel consumption of 5 per cent. for every 10 per cent. of alcohol added to gasoline.

Although this increased consumption in fuel may not be noticed by many individual drivers, it will be immediately appreciated by operators of a large number of motor vehicles; and the seriousness of a 5 per cent. increase in fuel consumption cannot be overlooked.

In many tests that have been reported the carburetor was evidently adjusted to an overrich mixture on gasoline in order to obtain easy starting and rapid acceleration at the sacrifice of fuel economy. When a car so adjusted is operated on a blend containing 5 or 10 per cent. of alcohol, approximately the same mileage may be obtained by the blend as with the straight gasoline, but at a sacrifice in performance.

As a motor fuel, alcohol has a high octane number and improves the antiknock value or octane number of any gasoline with which it is blended. In a blend, 10 per cent. of alcohol is approximately as effective as 20 per cent. of benzol or 1 per cent. of lead tetraethyl. The octane number of the gasoline may be increased about 3 to 9 octane numbers by the addition of 10 per cent. of anhydrous ethyl alcohol. The effect of alcohol on the knock rating is cumulative in much the same manner as the effect of benzol. Although it takes 10 per cent. of absolute alcohol to improve the knock rating to the same degree as about 1 cc. of lead tetraethyl, 15 per cent. of alcohol is approximately equivalent to 2 cc. of lead tetraethyl, and 20 per cent. of alcohol is equivalent to about 3 cc. of lead tetraethyl, or about 35 per cent. of benzol when tested by the "research method." The knock rating of alcohol is depreciated in about the same proportion as that of benzol or cracked gasoline, and these values would be somewhat reduced by the new A. S. T. M. procedure. Data in Table 1, based on knock ratings as determined by the research method and using a motor gasoline of 66 octane numbers as reference, indicate the approximate improvement in knock rating made possible by the addition of various percentages of alcohol; also the increase in compression ratio, and in thermal efficiency made possible by the indicated improvement in knock rating.

TABLE 1.

The Effect of Alcohol on Knock Rating—Allowable Increase in Compression Ratio and Corresponding Possible Improvement in Thermal Efficiency [7, 8, 9]

Per Cent. of Absolute Alcohol in Blend	Increase in Octane Number	Percentage Increase in Highest Useful Compression Ratio	Possible Percentage Increase in Efficiency Due to Increase in Highest Useful Compression Ratio	Percentage Increase in Consumption Due to Blending of Alcohol
5	3	2	1.0	2.5
10	7	5	3.0	5.0
15	12	9	4.5	7.5
20	15	15	6.2	10.0

By comparing the last two columns in Table 1 it is clearly evident that the improvement in thermal efficiency that might be obtained by blending alcohol with gasoline, and using engines of higher compression, is not sufficient to compensate for the increase in fuel consumption caused by the lower-heating value of alcohol.

The same conclusion is reached by comparing the data on pure alcohol. Ricardo found that the minimum consumption at the highest useful compression ratio of each fuel was 0.533 pints per horsepower for 98.5 per cent. of alcohol, and 0.435 pints per horsepower hour for a sixty-four gravity gasoline.

The effect of adding alcohol on the distillation and vapor-pressure characteristics of gasoline is clearly shown in Fig. 1. Based on these data, it may be stated that with blends of alcohol not exceeding 10 per cent. by volure there will be little noticeable difference in ease of starting or in acceleration that could be determined by road tests, and whatever difference could be detected in laboratory tests would probably be compensated and of no practical significance.

If more than 10 or 20 per cent. of alcohol is blended with the gasoline, the difficulty in starting becomes noticeable, and the results of acceleration tests indicate further difficulties.

The effect of 5 or 10 per cent. of alcohol in the motor-fuel blend on the vapor pressure is an increase of about 1 to 1½ pound in vapor pressure upon including about 10 per cent. of alcohol. Since this increase in vapor pressure is not accompanied by a proportionate increase in ease of starting, the blending of alcohol will increase the difficulty due to vapor lock without improv-

(Continued on Page 7)

CURRENT PRICES OF PASSENGER CAR MODELS

AUBURN—8-cyl. 127 W. B.
Standard Models

2 Coupe	745	5 Cabriolet	895
5 Brougham	795	5 Phaeton	945
5 Sedan	845	7 Sed. (136 W. B.)	945

AUBURN—8-cyl. 127 W. B.
Custom Dual Ratio

2 Coupe	895	5 Phaeton	1095
5 Brougham	945	Speedster	1035
5 Sedan	995	Sed. (136 W.B.)	1095
5 Cabriolet	1045		

AUBURN—8-cyl. 127 W. B.
Salon Models

5 Brougham	1195	5 Phaeton	1345
5 Sedan	1245	Speedster	1345
5 Cabriolet	1295		

AUBURN—12-cyl. 133 W. B.
Standard Models

2 Coupe	1145	5 Sedan	1245
5 Brougham	1195		

AUBURN—12-cyl. 133 W. B.
Custom Dual Ratio Models

2 Coupe	1295	5 Cabriolet	1443
5 Brougham	1345	5 Phaeton	1495
5 Sedan	1395	Speedster	1495

AUBURN—12-cyl. 127 W. B.
Salon Models

5 Brougham	1695	5 Phaeton	1845
5 Sedan	1745	Speedster	1845
5 Cabriolet	1795		

AUSTIN—4-cyl. 75 W. B.

Business Coupe	275	Roadster	305
Spl. Business Coupe	295	Sub. Coupe	315
			375

BUICK—8-cyl. 119 W. B.
33-50 Series

2 Coupe	995	5 Coupe	1065
Special Coupe	1030	Con. Coupe	1115
Sedan	1045		

BUICK—8-cyl. 127 W. B.
33-60 Series

Special Coupe	1,270	Con. Coupe	1,365
Sedan	1,310	Con. Phaeton	1,585
5 Coupe	1,310		

BUICK—8-cyl. 130 W. B.
33-80 Series

Sport Coupe	1,495	Con. Coupe	1,575
5 Coupe	1,540	Con. Phaeton	1,845
Sedan	1,570		

BUICK—8-cyl. 138 W. B.
33-90 Series

5 Coupe	1,785	7 Sedan	1,955
5 Sedan	1,805	7 Limousine	2,055
5 Cl. Cpl. Sedan	1,820		

CADILLAC V-8—8-cyl. 134 W. B.
Series 353-C. Body by Fisher

2 Coupe	2,695	2 Conv. Coupe	2,745
2 Roadster	2,795		

CADILLAC V-8—8-cyl. 140 W. B.
Body by Fisher

5 Sedan	2,895	7 Sedan	3,045
5 Phaeton	2,895	7 Imperial	3,195
5 Coupe	2,895	5 A.W. Phaeton	3,395
5 Town Sedan	2,995		

CADILLAC V-8—8-cyl. 140 W. B.
Body by Fleetwood

5 Sedan	3,295	5 Town Cab.	3,995
7 Sedan	3,445	7 Town Cab.	4,145
7 Limousine	3,645	7 Lim. Brough.	4,145

CADILLAC V-12—12-cyl. 134 W. B.
Series 370-C. Body by Fisher

2 Coupe	3,395	2 Conv. Coupe	3,545
2 Roadster	3,495		

CADILLAC V-12—12 cyl. 140 W. B.
Body by Fisher

5 Sedan	3,595	7 Sedan	3,745
5 Phaeton	3,595	7 Imperial	3,895
5 Coupe	3,595	5 A.W. Phaeton	4,095
5 Town Sedan	3,695		

CADILLAC V-12—12-cyl. 140 W. B.
Body by Fleetwood

5 Sedan	3,995	5 Town Cab.	4,695
7 Sedan	4,145	7 Town Cab.	4,845
7 Limousine	4,345	7 Lim. Brough.	4,845

CADILLAC V-16—16-cyl. 140 W. B.
Series 452-C. Body by Fleetwood

5 Sedan	6,250	Town Cabriolet	
7 Sedan	6,400	(Opera Seats)	6,850
7 Limousine	6,600	Town Cabriolet	6,850
		7 Lim. Brough.	6,850

CHEVROLET—6-cyl. 107 W. B.
Standard 6

2 Business Coupe	445	2-4 Coupe (R.S.)	475
5 Two-dr. Sedan	435		

CHEVROLET—6-cyl. 110 W. B.
Master 6

Sport Roadster	485	Sport Coupe	535
Coupe	495	Sedan	565
Coach	515	Cabriolet	565
Phaeton	515		

CHRYSLER—6-cyl. 117 W. B.

2 Business Coupe	795	5 Sedan	845
4 Brougham	795	4 Con. Coupe	885
4 Coupe (R.S.)	835	5 Con. Sedan	1,055

CHRYSLER—8-cyl. 120 W. B.
Royal Eight Models

2 Business Coupe	945	4 Con. Coupe	1,035
2-4 Coupe (R.S.)	985	5 Con. Sedan	1,195
5 Sedan	995		

CHRYSLER—8-cyl. 126 W. B.
Imperial Eight Models

2-4 Coupe (R.S.)	1,355	2-4 Con. Coupe	1,425
5 Coupe	1,395	5 Con. Sedan	1,595
5 Sedan	1,395		

CHRYSLER—8-cyl. 146 W. B.
Custom Imperial

5 Cl. Cpl. Sedan	2,895	2-4 Con. Road	3,295
7 Sedan	2,995	5 Phaeton	3,395
7 Sed. Limous.	3,295		

CONTINENTAL—4-cyl. 101½ W. B.
Beacon Models

2 Roadster	355	2-dr. Sedan	380
Coupe	380	4-dr. Sedan	395

CONTINENTAL—6-cyl. 107 W. B.
Flyer Models

Roadster	450	2-dr. Sedan	510
Coupe	490	4-dr. Sedan	535

CONTINENTAL—6-cyl. 114 W. B.
Ace Models

Coupe (R.S.)	725	De Luxe Sedan	815
Stand. Sedan	745		

DE SOTO—6-cyl. 114¾ W. B.
Standard Models

2 Business Coupe	695	2-4 Coupe (R.S.)	735
5 Brougham	695	5 4-dr. Sedan	765

DE SOTO—6-cyl. 114¾ W. B.
Custom Models

5 Spl. Brougham	725	2-4 Con. Coupe (R.S.)	845
2-4 Cust. Coupe (R.S.)	790	5-Con. Sedan	975
5 Sedan	835		

DODGE—6-Cyl. 115 W. B.
D. P. Models

2 Bus. Coupe (6 wire wheels, R.M.)	595	5 Salon Brougham (5 Chrome Steel Spoke Wheels, R. M.)	685
5 2-dr. Sedan (5 Wire Wheels, R. M.)	630	2-4 Conv. Coupe (5 Wood Wheels, R. M.)	695
5 2-dr. Sedan (5 Wood Wheels, R. M.)	635	2-4 Conv. Coupe (5 Wire Wheels, R.M.)	695
2-4 Coupe (R.S.) (5 Wood Wheels, R. M.)	640	5-4 dr. Sedan (5 Wood Wheels, 1 F. W.)	700
5 Salon Brougham (5 Wood Wheels, R. M.)	660	2-4 Conv. Coupe (6 Chrome Steel Spoke Wheels, R.M.)	695
5 Salon Brougham (5 Wire Wheels, R. M.)	660	2-4 Conv. Coupe (6 Wood Wheels, 2 F. W.)	720
2-4 Coupe (R. S.) (5 Chrome Steel Spoke Wheels, R. M.)	665	2-4 Conv. Coupe (6 Wire Wheels, 2 F. W.)	725
2-4 Coupe (R.S.) (6 Wood Wheels, 2 F. W.)	670	5 4-dr. Sedan (6 Chrome Steel Spoke Wheels, 2 F. W.)	741
2-4 Coupe (R.S.) (6 Wire Wheels, 2 F. W.)	670	5 De luxe Salon Brougham (6 Chrome Steel Spoke Wheels, 2 F. W.)	775

DODGE—8-cyl. 122 W. B.
D. O. Models

2-4 Coupe (R. S.) (6 Wood Wheels, 2 F. W.)	1150	5 4-Dr. Sedan (6 Wood Wheels, 2 F. W.)	1180
5 Coupe (6 Wood Wheels, 2 F. W.)	1185	5 4-Dr. Sedan (6 Chrome Steel Spoke Wheels, 2 F. W.)	1220

ESSEX—6-cyl. 106 W. B.
Terraplane Standard Models

2 Roadster	425	4 Coupe (R. S.)	535
2 Coupe	485	5 Sedan	555
5 Coach	505		

ESSEX—6-cyl. 106 W. B.
Terraplane Special Models

4 Roadster	525	5 Sedan	595
5 Coach	545	4 Con. Coupe	595
4 Coupe (R.S.)	570		

ESSEX—8-cyl. 113 W. B.
Terraplane Eight Models

2 Roadster	565	4 Coupe (R.S.)	655
2 Coupe	615	5 Sedan	675
5 Coach	615	4 Con. Coupe	695

FORD—4-cyl. 112 W. B.
Model 48

2 Roadster	425	2 DeL Coupe, 5 windows	490
2 Coupe 3 win.	440	5 DeL Phaeton	495
2 Coupe 5 win.	440	5 DeL Tudor Sedan	500
5 Phaeton	445	5 Fordor Sedan	510
2-4 Road. (R.S.)	450	2-4 DeL Coupe (RS) 3 windows	515
5 Tudor Sedan	450	2-4 DeL Coupe (R.S.) 5 win.	515
2-4 DeL Roadster	460	2-4 Cabriolet	535
2-4 Coupe (R.S.) 3 windows	465	4 Victoria	545
2-4 Coupe (R.S.) 5 windows	465	5 DeL Fordor Sedan	560
2 DeL Coupe, 3 windows	490		

FORD—V-8. 112 W. B.
Model 40

Roadster	475	De L. Phaeton	545
Coupe	490	De L. Tudor	550
Phaeton	495	Fordor	560
Tudor Sedan	500	Cabriolet	585
De L. Roadster	510	Victoria	595
De L. Coupe	540	De L. Fordor	610

FRANKLIN—6-cyl. 118 W. B.
Olympic Models—Series 15

5 Sedan	1385	4 Conv. Coupe	1500
2 Coupe	1385		

FRANKLIN—6-cyl. 132 W. B.
Series 16-B

5 Sedan	1935	Oxford Sedan	1995
Club Sedan	1985	7 Sedan	2135

FRANKLIN—12-cyl. 144 W. B.
Series 17

5 Sedan	2885	7 Sedan	2985
5 Club Brough.	2885	7 Limousine	3185

GRAHAM—6-cy. 113 W. B.
Standard Models

2 Coupe	745	5 Sedan	795
4 Coupe (R.S.)	795	4 Conv. Coupe	835

GRAHAM—8-cyl. 119 W. B.
Standard Models

2 Coupe	845	5 Sedan	895
4 Coupe (R.S.)	895	4 Con. Coupe	935

GRAHAM—8-cyl. 123 W. B.
Custom Models

2 Coupe	1045	5 Sedan	1095
4 Coupe (R.S.)	1095		

HUDSON—6-cl. 113 W. B.
Super-Six Models

2 Bus. Coupe	695	5 Phaeton	765
5 Coach	695	5 Sedan	765
2-4 Coupe (R.S.)	735	2-4 Con. Coupe	845

HUDSON—8-cyl. 119 W. B.
Standard Eight Models

5 Coach	975	5 Sedan	1045
2-4 Coupe	995	2-4 Con. Coupe	1145

HUDSON—8-cyl. 132 W. B.
Major Eight Models

5 4-dr. Touring Sedan	1250	5 Club Sedan	1350
5 Brougham	1350	7 Sedan	1350

HUPMOBILE—6-cyl. 121 W. B.

5 Sedan	995	Victoria	1060
2-4 Coupe (R.S.)	995	Cabriolet	1095

HUPMOBILE—8-cyl. 122 W. B.

Coupe	1195	Victoria	1260
5 Sedan	1195	Cabriolet	1295

HUPMOBILE—8-cyl. 126 W. B.

5 Sedan	1445	Victoria	1510
Coupe	1445	Cabriolet	1545

LA SALLE V-8—8-cyl. 130 W. B.
Series 345-C. Body by Fisher

5 Sedan	2245	2 Conv. Coupe	2395
2 Coupe	2245	5 Town Coupe	2395

LA SALLE V-8—8-cyl. 136 W. B.
Body by Fisher

5 Town Sedan	2495	7 Imperial	2645
7 Sedan	2495		

LINCOLN—12-cyl. 136 W. B.

2 Roadster	2700	2 Con. Roadster	
4 Phaeton	3000	(R. S.)	3200
Town Sedan	3100	7 Touring	3200
2 Coupe	3100	7 Sedan	3300
5 Victoria	3200	7 Limousine	3350
5 Sedan	3200		
4 Phaeton (with Tonneau Cowl and Windshield)	3200		

LINCOLN—12-cyl. 145 W. B.

4 Phaeton	4200	2 Coupe (Judkins)	5000
7 Touring	4300	Berline (Judkins) (2 and 3 window)	5500
5 Coupe	4300	7 Limousine (Willoughby)	5700
4 Town Sedan (3 window)	4400	Con. Coupe (Brunn)	5700
4 Phaeton (with Tonneau Cowl and Windshield)	4400	7 Sed. Limousine (Judkins)	5800
5 Sedan	4500	5 Con. Sedan (Dietrich)	6100
2 Con. Roadster (R. S.) (Le Baron)	4500	5 Cab. (Brunn) (Semi or Non-Col)	6900
7 Sedan	4600	7 Brougham (Brunn)	6900
7 Limousine	4800	Panel Brougham (Willoughby)	7000
2 Coupe (Dietrich)	4900		

MARMON—16-cyl. 145 W. B.

Sedan	4825	2 Con. Coupe	4975
2 Coupe	4825	7 Sedan	4975
5 Cl. Cpl. Sedan	4925	5 Con. Sedan	5075
5 Coupe	4925	7 Limousine	5175

NASH—6-cyl. 116 W. B.
Big Six Models

5 4-dr. 4-window Sedan	695	2-4 Coupe (R.S.)	745
2 Coupe	725	5 4-dr. 6-window Sedan	745

NASH—8-cyl. 116 W. B.
Standard Eight Models

2 Coupe	830	5 4-dr. 6-window Sedan	845
5 4-dr. 4-window Sedan	830	2-4 Coupe (R.S.)	845
		2-4 Conv. Road	900

NASH—8-cyl. 121 W. B.
Special Eight Models

2 Coupe	965	2-4 Coupe (R.S.)	1015
5 4-dr. 4-window Town Sedan	975	2-4 Con. Road	1055
5 4-dr. 6-window Sedan	1015	5 2-dr. Conv. Sedan	1095

NASH—8-cyl. 128 W. B.
Advanced Twin Ignition Eight Models

2 Coupe	1255	2-4 Conv. Road	1395
2-4 Coupe (R.S.)	1275	5 Victoria	1395
5 4-dr. 6-window Sedan	1320	5 4-dr. Conv. Sedan	1575

NASH—8-cyl. 133-142 W. B.
Ambassador Twin Ignition Models

2-4 Coupe (R.S.)	1545	5 4-dr. 4-window Brougham	1820
5 4-dr. 6-window Sedan	1575	5 4-dr. Conv. Sedan	1875
2-4 Conv. Road	1645	7 4-dr. Sedan	1955
5 Victoria	1785	7 4-dr. Limou	2055
5 4-dr. 6-window Sedan	1855		

OLDSMOBILE—6-cyl. 115 W. B.

Business Coupe	745	5 Sedan	825
5 Coupe	745	Conv. Coupe	825
Touring Coupe	775	Touring Sedan	855
Sport Coupe	780		

OLSMOBILE—8-cyl. 119 W. B.

Business Coupe	845	5 Sedan	925
5 Coupe	845	Conv. Coupe	925
Touring Coupe	875	Touring Sedan	955
Sport Coupe	820		

PACKARD—8-cyl. 127½ W. B.

5 Sedan	2150	Coupe Sedan	2190
2 Coupe	2160	Coupe Roadster	2250

PACKARD—8-cyl. 136 W. B.

2 Coupe	2350	5 Coupe	2440
5 Phaeton	2370	7 Sedan	2445
5 Sedan	2385	7 Limousine	2550
Club Sedan	2390	Con. Victoria	2780
7 Touring	2395	Con. Sedan	2890

PACKARD—8-cyl. 135 W. B.
Super Eight Model

5 Sedan	2750

PACKARD—8-cyl. 142 W. B.
Super Eight Model

2 Coupe	2780	7 Sedan	3090
Coupe Roadster	2870	5 Spt. Phaeton	3150
5 Phaeton	2890	7 Limousine	3280
Club Sedan	2975	Conv. Victoria	3440
5 Coupe	2980	Conv. Sedan	3590
5 Tourer	2980		

PACKARD—12-cyl. 142 W. B.

2 Coupe	3720	5 Coupe	3890
5 Phaeton	3790	Spt. Phaeton	4090
Coupe Roadster	3850	Cont. Victoria	4490
5 Sedan	3860	Conv. Sedan	4650
Club Sedan	3880		

PACKARD—12-cyl. 147 W. B.

7 Sedan	4085	7 Limousine	4285

PACKARD—12-cyl. 147 W. B.
Custom Models

Spt. Phaeton (Dietrich)	5875	Con. Sedan (Dietrich)	6570
Sts. Coupe (Dietrich)	6000	Formal Sedan (Dietrich)	7000
Con. Victoria (Dietrich)	6070	A. W. Cabriolet (Le Baron)	7000
Con. Runabout (Dietrich)	6085	A. W. Town Car (Le Baron)	7000

PIERCE-ARROW—8-cyl. 130 W. B.
Standard Models

2 Club Brougham (Trunk on rear)	2385	5 Sedan	2575
		5 Club Sedan	2695

PIERCE-ARROW—8-cyl. 136 W. B.
Salon Models

Club Brougham (Trunk on rear)	2550	5 Sedan	2740
		5 Club Sedan	2860

PIERCE-ARROW—8-cyl. 139 W. B.
Standard Models

7 Sedan	2850	7 En. Dr. Lim.	2975

PIERCE-ARROW—8-cyl. 139 W. B.
Salon Models

7 Seden	3015	7 En. Dr. Lim.	3140

PIERCE-ARROW—12-cyl. 136 W. B.
1236 Standard Models

5 Club Brougham (Trunk on rear)	2785	5 Sedan	2975
		5 Club Sedan	3095

PIERCE-ARROW—12-cyl. 139 W. B.
1236 Standard Models

7 Sedan	3250	7 En. Dr. Lim.	3375

PIERCE-ARROW—12-cyl. 137 W. B.
1242 Custom Models

5 Club Brougham (trunk on rear)	3650	5 Tourer	3950
		5 Spt. Phaeton (ton. windsc'n)	4150
5 Sedan	3785		
2-4 Coupe (R.S.)	3785	5 Club Berline (trunk on rear)	4150
Con. Coupe Roadster (R. S.)	3900	5 Con. Sedan (trunk on rear)	4250
5 Club Sedan (trunk on rear)	3950		

PIERCE-ARROW—12-cyl. 142 W. B.
1242 Custom Models

7 Sedan	3985	7 Tourer	4250
7 En. Lr. Lim.	4250		

PIERCE-ARROW—12-cyl. 142 W. B.
1247 Custom Models

5 Sedan	4295	5 Club Berline (trunk on rear)	4600
5 Club Sedan (trunk on rear)	4400		

PIERCE-ARROW—12-cyl. 147 W. B.
1247 Custom Models

7 Sedan	4535	Town Brougham (small ¾ windows) (Brunn)	6700
7 En. Dr. Lim.	4800		
Con. Victoria (Le Baron)	5200	Town Brougham (large ¾ windows) (Brunn)	6700
Coupe (metal back) (Le Baron)	5300		
Coupe (leather back) (Le Ba'n)	5600	Town Car (stationary rear quarter) (Brunn)	6700
Club Sedan (Le Baron)	5700		
Con. Sedan (Le Baron)	5700	Town Cabriolet (collapsible rear quarter) (Brunn)	7200
Con. Sedan with partition (Le Baron)	6100		
En. Dr. Limousine (Le Baron)	6200	En. Dr. Brougham (limousine front) (Brunn)	7200

PLYMOUTH—6-cyl. 107 W. B.
Standard Series

2 Stan. Coupe	495	2-4 Spt. Cp. (RS)	525
5 2-dr. Sedan	505	5 Sedan	545
		2-4 Con. Coupe	565

PLYMOUTH—6 cyl. 112 W. B.
De Luxe Series

2 Coupe	495	5-4 dr Sedan	575
5 2-dr. Sedan	525	2-4 Conv. Coupe	595
2-4 Coupe (R.S.)	545		

PONTIAC—8-cyl. 115 W. B.

2 Roadster	585	2-dr. Tour. Sedan	675
5 2-dr. Sedan	635	2-4 Con. Coupe	695
2 Stan. Coupe	635	4-dr. Sedan	695
4 Coupe (R.S.)	670		

REO—6-cyl. 117½ W. B.
Flying Cloud Models

Stan. Sedan	995	Flite Sedan	1090
Stan. Coupe	995	Elite Coupe	1090
St. Con. Coupe	1045	Elite Con. Coupe	1140

REO—8-cyl. 131 W. B.
Royale Models

Stan. Sedan	1745	Elite Sedan	1845
Stan. Victoria	1745	Elite Victoria	1845
Stan. Coupe	1745	Elite Coupe	1845

ROCKNE—6-cyl. 110 W. B.
Standard Models

5 Coach	585	4 Coupe	620
2 Coupe	585	4 Conv. Roadster	675
5 Sedan	615	5 Conv. Sedan	695

ROCKNE—6-cyl. 110 W. B.
De Luxe Models

5 Coach	630	4 Coupe	665
2 Coupe	630	4 Conv. Roadster	720
5 Sedan	660	5 Conv. Sedan	740

STUDEBAKER—6-cyl. 117 W. B.
Series 6-56

Coupe	840	5 Con. Sedan	1015
4 Coupe	890	5 Regal St. Regis	
4 Roadster	915	Brougham	1020
5 Sedan	915	4 Regal Con. Roadster	1020
5 St. Regis Brougham	915	5 Regal Sedan	1020
2 Regal Coupe	845	5 Regal Con.	
4 Regal Coupe	995	Sedan	1120

STUDEBAKER—8-cyl. 117 W. B.
Commander 8-73

Coupe	1000	5 Regal St. Regis Brougham	1180
4 Coupe	1050	5 Regal Sedan	1180
5 St. Regis Brougham	1075	5 Con. Sedan	1195
5 Sedan	1075	4 Regal Con. Roadster	1095
4 Con. Roadster	1095	Regal Con.	1200
Regal Coupe	1105	4 Regal Con.	
Regal Coupe	1155	Sedan	1300

STUDEBAKER—8-cyl. 125 W. B.
President 8-82

4 Coupe	1325	4 State Con. Roadster	1490
5 St. Regis Brougham	1385	5 State Sedan	1490
4 Con. Roadster	1385	5 Con. Sedan	1545
5 Sedan	1385	5 State Con. Sedan	1650
4 State Coupe	1430		
5 State St. Regis Brougham	1490		

STUDEBAKER—8-cyl. 135 W. B.
President 8-92

4 Coupe	1625	5 State Sedan	1790
5 St. Regis Brougham	1585	7 Sedan	1835
4 Con. Roadster	1685	5 Con. Sedan	1855
5 Sedan	1685	7 Limousine	1935
4 State Coupe	1730	7 State Sedan	1940
5 State St. Regis Brougham	1790	5 State Con. Sedan	1960
4 State Con. Roadster	1790	7 State Limousine	2040

STUTZ—6-cyl. 127½ W. B.
LAA Models

5 Coupe	1995	5 Club Sedan	1995
5 Sedan	1995	Cabriolet Coupe	2285
2 Coupe	1995		

STUTZ—8-cyl. 134½ W. B.
SV-16 Challenger Series

5 Coupe	2495	2 Speedster	2880
5 Sedan	2780	Cabriolet Coupe	2880
2 Coupe	2780	Torpedo Sp'dster	2980
Club Sedan	2880		

STUTZ—8-cyl. 145 W. B.
SV-16 Challenger Series

7 Sedan	3245	Cabriolet Coupe	3445
7 Limousine	3445	5 Conv. Sedan	3495

STUTZ—8-cyl. 134½ W. B.
DV-32 Challenger Series

5 Coupe	3195	5 Club Sedan	3580

HAY URGES DEALERS NOT TO NEGLECT BY-PRODUCT PROFIT

(Continued from Page 1)

ly intrenched outlets dealing almost exclusively in such merchandise and service.

"There is no denying that automobile dealers should go after this by-products business and recapture as much of it as possible. But in so doing they should handle their new car sales and used car trades properly, which means at a profit. A rightly conducted business would handle the by-products as a separate department which is capable of standing the cost of its portion of available floor space and overhead and at the same time return a reasonable profit on the investment."

MOTOR INDUSTRY TO DOMINATE FAIR

(Continued from Page 1)

made of glass, through which various models of cars will be visible. This glass structure is nine stories high, with just enough room for a car on each floor.

Staidard Oil and Sinclair will represent the gasoline and oil industry, revealing the secrets of manufacturing their products.

During the past week important factory officials from all of the exhibiting companies have visited Chicago for final inspections and check-ups, and more of them will be here this week for further previews and the grand opening.

LOW PRICE CARS LEAD IN CANADA

(Continued from Page 1)

in eastern Canada in the first four months of this year, General Motors having 48 per cent. of the total, Chrysler 22 per cent. and Ford 17 per cent. In the same period of 1931 and 1932 these manufacturers accounted for 80 and 81.8 per cent. respectively.

Compared with a year ago, General Motors has almost maintained its position, which was 52 per cent. in that year, while Chrysler and Ford have improved from 17 to 12.8 per cent. respectively, unit sales in the case of these latter two being actually higher.

Dealer Activties

(Continued from Page 3)

Ryland was re-elected president, and H. D. Eirman named vice-president and general manager. The newly elected board of directors consists of G. B. Ryland, Nathaniel Holmes, Al Hattenbach, L. R. Scott and J. N. Succop.

* * *

Wilson & White have been appointed downtown Pittsburgh Ford dealers and will occupy the quarters formerly housing the Moodey Motor Company at 519 Water Street. J. C. Wilson and F. A. White comprise the new firm. White formerly was used car manager for the Moodey company.

* * *

Several changes have been announced in the B.-O.-P. Sales Company staff in the Pittsburgh zone by W. T. Minor, zone manager. A. R. Shedd has been made assistant manager; D. B. Whitfield, formerly city sales manager, has been made office manager; J. T. Bower, former district representative, becomes sales manager, and J. G. Davies, formerly manager of the Pontiac retail store, has been transferred to the zone operation.

* * *

Two changes in dealerships have been made in the Dormont district. Chrysler and Plymouth cars will be handled exclusively in the future by the Dormont Motors Company, 2875 West Liberty Avenue, which also had Hudson-Essex. The latter dealership has been given to the Jones-Lynne Motor Company, 2837 West Liberty Avenue, dealer for Graham cars in Dormont.

POMEROY TO SPEAK AT S. A. E. MEETING

New York, May 24.—Announcement was made today by John A. C. Warner, general manager of the Society of Automotive Engineers, that Laurence Henry Pomeroy, managing director of the Daimler Company, Ltd., of Coventry, England, has accepted the invitation to discuss "What Is the Matter With American Cars?" at the forthcoming S. A. E. International Automotive Engineering Congress, Palmer House, Chicago, August 28 to September 4, inclusive, during the Century of Progress Exposition. Mr. Pomeroy is one of several internationally known foreign engineers who are expected to contribute to this automotive symposium, which, Mr. Warner says, will be the most comprehensive automotive engineering event ever attempted in this country.

STEEL MILLS REOPEN

New Philadelphia, May 24.—All of the Reeves Manufacturing Company's eight sheet mills will operate this week, officials of the company have announced. For the last six weeks six of the mills operated and prior to that five mills were active each week.

Ten Passenger Car Sales Leaders for April-March, 1933

Returns for today: Alabama, Arizona, Arkansas, California, Connecticut, Georgia, Idaho, Indiana, Louisiana, Massachusetts, Nevada, New Jersey, New Mexico, New York, Ohio, Oregon, Pennsylvania, Rhode Island and Washington

In this table, 37 states and the District of Columbia

APR., 1933 States	Sales	FIRST		SECOND		THIRD		FOURTH		FIFTH		SIXTH		SEVENTH		EIGHTH		NINTH		TENTH	
Alabama	969	Chev	462	Ford	179	Ply	107	Pontiac	47	Buick	31	Dodge	30	Chrysler	18	Olds	14	Austin	13	Essex	12
Arizona	135	Ford	41	Chev	39	Ply	11	Pontiac	10	Buick	7	Dodge	6	Essex	5	Ch-O	4	N-R	2	*	1
Arkansas	594	Chev	310	Ford	173	Ply	45	Dodge	28	Pontiac	14	ED	5	De Soto	4	Ch-Pa	2	*	1		
Cal.	7617	Chev	2110	Ford	1929	Ply	1010	Dodge	385	Buick	311	Pontiac	272	Rockne	188	Willys	158	Olds	156	De Soto	152
Conn.	2241	Chev	624	Ford	386	Ply	313	Pontiac	213	Dodge	133	Buick	114	Essex	68	Olds	67	Chrysler	50	Rockne	38
Delaware	382	Chev	148	Ford	83	P-Po	37	Essex	20	Buick	16	Olds	13	De Soto	5	Nash	4	Ca-Ch-RoS	3	Willys	2
Illinois	8132	Chev	2310	Ford	1727	Ply	1064	Pontiac	603	Buick	358	Dodge	355	Olds	343	De Soto	180	Chrysler	170	Essex	143
Florida	1165	Ford	357	Chev	343	Ply	111	Austin	104	Pontiac	56	Dodge	43	Buick	33	Essex	21	Willys	17	Chrysler	16
Georgia	2158	Chev	993	Ford	362	Ply	319	Pontiac	113	Buick	73	Dodge	64	Essex	35	Austin	27	Ch-S	25	Olds	22
Idaho	285	Chev	117	Ford	57	Ply	51	Dodge	13	Pontiac	11	Buick	6	Ch-G	5	D-R-W	4	Auburn	3	Olds	2
Indiana	2111	Chev	630	Ford	474	Ply	322	Pontiac	88	Dodge	85	Buick	59	De Soto	57	Olds	52	Essex	40	Ch-R	37
Kansas	521	Chev	210	Ford	127	Ply	57	Pontiac	30	Dodge	16	Essex	14	Buick	11	O-R	8	DS-Hu	6	S-W	5
Louisiana	939	Chev	383	Ford	305	Ply	85	Dodge	31	Pontiac	22	Buick	18	Nash	17	Olds	14	Rockne	11	Chrysler	9
Maryl'd	1549	Chev	562	Ford	289	Ply	198	Pontiac	112	Dodge	59	Chrysler	53	Buick	49	Olds	43	Essex	29	DS-R	21
Mass.	6804	Chev	2201	Ford	1479	Ply	743	Pontiac	558	Buick	276	Dodge	269	Essex	243	Olds	194	Nash	129	Chrysler	113
Mich.	4365	Ford	1516	Chev	1044	Ply	413	Pontiac	316	Dodge	303	Olds	139	Essex	131	Buick	99	Chrysler	71	Rockne	50
Minn.	2184	Chev	864	Ford	470	Ply	255	Pontiac	108	Dodge	79	Buick	63	Olds	49	Rockne	33	Essex	32	Stude	29
Montana	795	Chev	293	Ford	179	Ply	80	Pontiac	63	Dodge	36	Buick	25	Chrysler	22	Essex	21	Olds	13	De Soto	12
Nevada	40	Chev	18	Ford	7	Pontiac	5	Ply	4	Buick	2	*	1								
N. Hamp.	684	Chev	214	Ford	159	Ply	82	Pontiac	45	Essex	30	Dodge	29	Buick	27	Rockne	18	Olds	16	Chrysler	12
N. J.	15166	Chev	5165	Ford	2237	Ply	1681	Pontiac	1586	Buick	853	Dodge	611	Olds	533	Chrysler	376	Essex	275	Rockne	234
N. Mexico	330	Chev	115	Ford	97	Ply	48	B-Po	17	D-O	12	Ch-R-S	3	*	1						
N. York	18728	Chev	5677	Ford	3504	Ply	2168	Pontiac	1498	Dodge	1044	Buick	1042	Olds	691	Chrysler	462	Essex	432	Stude	282
N. C.	1601	Chev	666	Ford	370	Ply	218	Pontiac	91	Essex	46	Dodge	44	B-Ch	29	Austin	26	Olds	21	Rockne	13
N. Dakota	377	Chev	168	Ford	83	Ply	44	Pontiac	34	Dodge	9	Olds	8	Rockne	7	E-S	5	Buick	4	Willys	3
Ohio	7701	Chev	2385	Ford	1642	Ply	1291	Dodge	488	Pontiac	444	Buick	200	Olds	186	Chrysler	142	Essex	141	De Soto	136
Oregon	743	Chev	233	Ford	196	Ply	115	Dodge	47	Pontiac	26	Buick	20	Ch-E	15	De Soto	14	Nash	12	G-S	9
Penn.	9420	Chev	3004	Ford	1783	Ply	1327	Pontiac	659	Dodge	550	Buick	380	Olds	305	Chrysler	236	Essex	196	De Soto	118
Rh. Isle	952	Chev	294	Ford	174	Ply	136	Pontiac	97	Buick	48	Chrysler	31	DS-E	24	Dodge	23	Olds	19	Nash	14
S. C.	837	Chev	390	Ford	198	Ply	88	Pontiac	42	Austin	28	Dodge	21	Essex	18	Chrysler	9	Buick	8	Olds	7
S. Dakota	171	Chev	70	Ford	38	Ply	26	Pontiac	11	Rockne	6	B-D	3	Ch-G	2	*	1				
Utah	380	Chev	116	Ply	82	Ford	72	Pontiac	20	Dodge	16	Essex	14	B-O	11	De Soto	6	Ch-G-N	5	S-W	4
Vermont	348	Chev	85	Ford	73	Ply	53	Pontiac	36	Buick	19	Dodge	17	Ch-E	11	Olds	9	De Soto	6	Hudson	5
Virginia	1298	Chev	480	Ford	297	Ply	170	Pontiac	83	Dodge	66	Buick	33	Chrysler	31	Essex	28	Olds	26	Rockne	18
Wash.	1481	Chev	409	Ford	373	Ply	243	Dodge	100	Pontiac	73	Olds	55	Buick	47	Rockne	37	Stude	23	Ch-W	21
W. Va.	1084	Chev	361	Ford	264	Ply	153	Dodge	85	Pontiac	47	Chrysler	28	Essex	25	B-O	21	De Soto	12	Nash	10
Wis.	2834	Chev	860	Ford	576	Ply	348	Pontiac	236	Dodge	163	Olds	103	Buick	89	Essex	74	Ch-N	55	Rockne	54
D. of C.	1240	Chev	406	Ford	301	Pontiac	99	Ply	92	Buick	47	Dodge	45	Olds	34	Stude	30	Ch-E	28	De Soto	18

MARCH, '33 States	Sales	FIRST		SECOND		THIRD		FOURTH		FIFTH		SIXTH		SEVENTH		EIGHTH		NINTH		TENTH	
Alabama	453	Chev	273	Ford	78	Ply	31	Ponitac	20	Dodge	12	Buick	7	Stude	5	Au-Ch-R	4	E-H-O-Pa-W	2	*	1
Arizona	185	Chev	74	Ford	32	Pontiac	15	Dodge	14	Buick	13	Ply	12	Olds	9	Rockne	8	Essex	4	Willys	3
Arkansas	495	Chev	251	Ford	123	Ply	60	Dodge	21	Pontiac	14	Buick	9	Chrysler	4	Rockne	3	DS-Re	2	*	1
Cal	5883	Chev	1708	Ford	1207	Ply	768	Dodge	300	Pontiac	252	Buick	232	De Soto	180	Essex	139	Olds	133	Rockne	132
Conn.	1223	Chev	344	Ply	185	Ford	171	Pontiac	110	Buick	71	Dodge	70	Olds	43	Essex	34	De Soto	28	Chrysler	26
Delaware	265	Chev	99	Ford	61	Pontiac	25	Ply	21	B-O	12	Chrysler	9	E-Pa	5	DS-R-W	3	L S	2	*	1
Illinois	5053	Chev	1323	Ford	1091	Ply	244	Pontiac	338	Dodge	244	Olds	227	Buick	210	DS	128	Chrysler	114	Willys	85
Florida	1315	Chev	423	Ford	316	Ply	159	Austin	117	Pontiac	56	Dodge	51	Buick	39	Essex	29	Willys	22	Olds	17
Georgia	997	Chev	436	Ply	150	Ford	114	Pontiac	57	Buick	53	Dodge	30	Olds	24	Graham	17	Austin	16	Chrysler	15
Idaho	157	Chev	50	Ford	42	Ply	29	Dodge	10	Pontiac	8	Willys	6	E-O	4	B-N-Re	1				
Indiana	2677	Chev	880	Ford	542	Ply	412	Pontiac	160	Dodge	106	Olds	89	De Soto	73	Essex	70	Buick	62	Rockne	57
Kansas	635	Chev	246	Ford	135	Ply	84	Pontiac	40	Essex	19	Willys	18	Rockne	17	Buick	16	D-S	10	Olds	8
Louisiana	536	Chev	219	Ford	166	Ply	47	Dodge	27	Olds	14	Buick	11	Pontiac	8	Nash	7	Ch-E	6	De Soto	5
Maryl'd	1002	Chev	382	Ford	188	Ply	101	Pontiac	76	Dodge	33	Buick	35	Ch-O	29	Essex	23	Graham	20	De Soto	14
Mass.	3261	Chev	950	Ford	699	Ply	317	Ponitac	283	Buick	140	Dodge	130	Olds	124	Essex	117	Chrysler	70	Nash	59
Mich.	3284	Chev	1013	Ford	990	Ply	268	Pontiac	235	Dodge	145	Olds	127	Essex	108	Buick	91	De Soto	44	Rockne	42
Minn.	1792	Chev	766	Ford	335	Ply	182	Pontiac	110	B-O	½1	Dodge	47	Willys	29	R-S	28	Hup	27	Chrysler	26
Montana	600	Chev	202	Ford	114	Ponitac	76	Ply	62	Buick	26	Dodge	24	Nash	14	Rockne	13	Essex	11	Chrysler	10
Nevada	71	Chev	34	B-F	10	Ply	4	O-Po	2	*	1										
N. Hamp.	313	Chev	105	Ford	82	Ply	26	Pontiac	15	Buick	14	O-R	12	E-S	9	D-N	7	De Soto	4	Chrysler	3
N. J.	3428	Chev	1040	Ford	639	Ponitac	376	Ply	335	Buick	176	Dodge	132	Olds	130	Essex	70	Rockne	66	De Soto	56
N. M.	122	Chev	52	Ford	22	Ply	20	Pontiac	9	Dodge	6	Chrysler	4	Buick	3	Stude	2	*	1		
N. York	10758	Chev	3250	Ford	1873	Ply	1029	Pontiac	871	Buick	605	Dodge	499	Olds	435	Chrysler	266	Stude	245	Essex	218
N. Caro.	907	Chev	383	Ford	196	Ply	117	Pontiac	51	Dodge	34	Austin	29	Essex	24	Chrysler	18	Buick	15	DS-O	7
N. Dakota	221	Chev	91	Ford	41	Ply	30	Pontiac	16	Buick	7	Dodge	6	Ch-O	5	DS-R	4	E-S-W	3	Nash	2
Ohio	3911	Chev	1272	Ply	692	Ford	813	Dodge	224	Ponitac	191	Buick	119	DS-O	109	Chrysler	106	Rockne	78	Essex	68
Oregon	529	Chev	159	Ford	123	Ply	82	Dodge	36	Pontiac	24	Buick	17	Ch-E-N	13	Olds	10	DS-G	9	Stude	5
Penna.	6969	Chev	2191	Ford	1245	Ply	959	Pontiac	512	Dodge	376	Buick	283	Olds	267	Chrysler	189	Essex	147	De Soto	106
Rh. Isle.	546	Chev	155	Ford	100	Ply	76	Pontiac	49	Buick	36	Chrysler	22	De Soto	17	Stude	13	D-E	12	Olds	11
S. Caro.	531	Chev	239	Ford	106	Ply	55	Austin	31	Buick	17	Pontiac	14	D-E	13	Olds	10	Chrysler	8	Willys	6
S. Dakota	222	Chev	90	Ford	39	Ply	25	Pontiac	11	Rockne	9	Dodge	7	B-Ch-O	6	E-W	5	Stude	4	Graham	3
Utah	304	Chev	113	Ford	52	Ply	45	Buick	16	Pontiac	12	Essex	10	Olds	9	Ch-G	8	Rockne	7	De Soto	6
Vermont	148	Chev	50	Ford	27	Ply	22	Pontiac	12	Essex	8	Dodge	7	Buick	5	Olds	4	Ch-Ds-G-Pa-R	2	*	1
Virginia	1343	Chev	503	Ford	315	Ply	150	Pontiac	97	Dodge	60	Buick	37	Essex	34	Olds	29	Chrysler	17	Hup	14
Wash.	878	Chev	299	Ford	213	Ply	130	Olds	55	Dodge	54	Pontiac	41	Buick	30	Chrysler	21	Stude	10	G-R	14
W. Va.	550	Chev	192	Ford	116	Ply	75	Dodge	38	Pontiac	27	Olds	15	Essex	14	Chrysler	12	Buick	11	Rockne	10
Wis.	1464	Chev	438	Ford	290	Ply	186	Pontiac	104	Dodge	83	Olds	50	Buick	48	Rockne	44	Essex	40	Nash	32
D. Col.	1051	Chev	296	Ford	282	Ply	82	Pontiac	77	Dodge	56	Buick	48	Olds	28	Chrysler	25	Essex	21	Graham	16

KEY TO ABBREVIATIONS AND SYMBOLS

A—Auburn, Au—Austin, B—Buick, C—Cadillac, Co—Continental, Ch—Chrysler, DS—De Soto, D—Dodge, E—Essex, F—Franklin, G—Graham, H—Hupmobile, Hu—Hudson, LS—La Salle, L—Lincoln, N—Nash, O—Olds mobile, Pa—Packard, PA—Pierce-Arrow, P—Plymouth, Po—Pontiac, Re—Reo, R—Rockne, S—Studebaker, WK—Willys-Knight, W—Willys. *—Cars in this position registered as shown.

Production—Engineering—Factory

Edited by Herbert Chase

ENGINEERING FACTS ABOUT ALCOHOL FUEL BLENDS

(Continued from Page 5)

ing starting or accelerating conditions.

The inclusion of larger percentages of alcohol greater than is now contemplated (about 10 per cent.) would avoid this difficulty in vapor lock, but would introduce much more serious difficulties in starting, in engine performance and in the necessity for change in design of carburetors and manifolds.

The direct evidence is that blending alcohol up to about 10 per cent. can be handled in modern motor cars with slight changes in adjustment and without any noticeable effect due to volatility changes except the increased susceptibility to vapor lock.

Although many claims have been made as to the beneficial effects of alcohol in decreasing crankcase dilution and improving the mechanical operation of the engine, no evidneces of such characteristics in a 10 per cent. alcohol blend are available. It has been rather conclusively shown that under normal conditions the dilution of the crankcase oil is dependent very largely upon the 90 per cent. point of the A. S. T. M. distillation of the fuel. Since the effect of blending 10 per cent. of alcohol on the 90 per cent. point is negligible, such alcohol blends will show no improvement due to crankcase dilution.

The pronounced cleansing action of alcohol frequently leads to another difficulty in the fuel system of the car, even with blends containing very small percentages of alcohol. One observer reports:

"When using alcohol fuels considerable trouble was experienced with the choking of filters and jets. The alcohol seemed to have a scouring action on the pipe, picking up any scale and dirt and carrying these forward to the carburetor. After running for some time on alcohol this feature becomes less troublesome, but at best there is always more trouble with stoppage than with gasoline."

The use of alcohol may be expected to cause some difficulty due to the cleansing action of the alcohol on the fuel tanks and lines, causing scale and gummy deposits to collect at the carburetor, and solution of shellac from cork floats in carburetors or on gasoline gages when present. The use of metal floats or protective coatings on cork floats which are note attacked by alcohol decreases this difficulty. Alcohol also has a solvent action on the diaphragms of fuel pumps, causing their early failure. This difficulty has not been satisfactorily solved.

TABLE 2

Average Temperatures at Which Blends Containing 10 Per Cent. Anhydrous Alcohol Separate.

Per Cent. of Water in Blend	Separation Temperature (Deg. F.)	Per Cent. of Water in Alcohol
0.1	—50	1
0.2	8	2
0.3	48	3
0.4	81	4
0.5	111	5

Difficulty with actual corrosion is probably due to impurities in the alcohol or to the use of alcohol-ether mixtures which undergo conversion, forming compounds.

With the use of the rich mixtures required for satisfactory performance with alcohol blends, the formation of corrosive compounds on combustion, such as acetic acid, cause rapid corrosion of exhaust pipes and mufflers.

In the use of blends containing not more than 10 per cent. of alcohol in gasoline, no serious difficulty due to direct corrosion of clean metal is to be expected; but the annoyance of more frequent cleaning of the fuel system, the opening up of leaks in old tanks, rapid deterioration of ful-pump diaphrams, and the possible damage to cork floats are real difficulties—hardly of a minor nature—to the use of alcohol in motor fuel.

Gasoline is practically insoluble in water, and will in turn dissolve practically no water itself. This important characteristic of gasoline prevents contamination with water, and permits the safe storage of large quantities of gasoline over a water seal.

Alcohol, on the other hand, is completely soluble in water, as is water in alcohol. Therefore, if any water comes in contact with an alcohol-gasoline blend, the alcohol dissolves some of the water, and the water dissolves some of the alcohol. Since water is insoluble in gasoline, this causes a separation of the alcohol blend into two layers. The lower layer contains the water and most of the alcohol with a small amount of gasoline, and the upper layer is composed of gasoline with a slight amount of alcohol.

Temperature also has a marked effect upon the separation of alcohol from the gasoline blend. It has been found that:

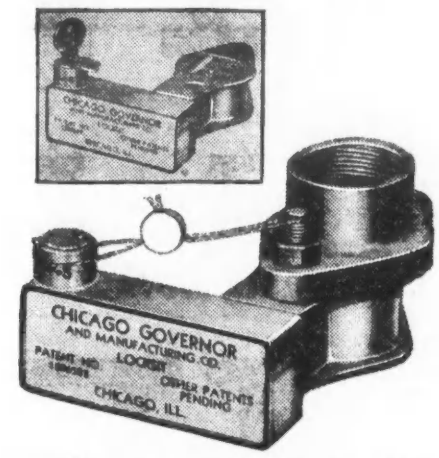
"To make alcohol-gasoline blends containing less than 10 per cent of alcohol, it is necessary to use absolute (water-free) alcohol or to add some blending agent such as ether, acetone, aromatics or higher alcohols. If such mixtures collect small amounts of moisture by leakage or 'sweating' of tanks, they will separate into two layers with the alcohol at the bottom. Under these conditions carburetor trouble would be experienced, and starting might be impossible in cold weather."

Data in Table 2, which represent the average of eight commercial gasolines, indicate that the presence of 0.2 per cent. of water would probably cause separation at ordinary winter low temperatures. This corresponds to only two gallons of water in a 1,000-gallon tank of alcohol-gasoline fuel.

This tendency of alcohol-gasoline blends to absorb water and to separate is one of the most serious difficulties in the use of such fuels in commercial distribution. The lower layer, containing mostly alcohol and water, might be used to operate an engine once it had been started, in a most unsatisfactory manner, but starting with such a mixture, if separation occurred upon a drop in temperature while the car was standing is almost impossible in cool weather.

(To be continued)

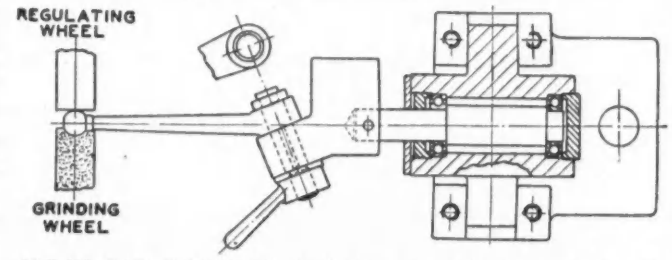
Locking Governor Offered



A new governor for cars, buses and trucks that both locks and seals against tampering has been announced by the Chicago Governor and Manufacturing Company, Chicago, Ill. This is known as the Locksit governor and is set with a key, after which a seal wire is passed through both the lock and stud, making it impossible to change the "set" of the governor even with a duplicate key, without breaking the seal.

These governors carry a two-year free replacement guarantee, and are guaranteed to control accurately both engine and traveling speed, under all loads, for the life of the engine. They can be installed, it is claimed in a few minutes without special tools and are said to fit 93 per cent. of all cars, buses and trucks without extra fittings of any sort.

Grinding Steering Arm Balls



SET-UP FOR FINISHING of steering arm balls on a Cincinnati centerless grinder

According to the makers of Cincinnati grinders the centerless method of grinding the ball end on forged steel steering arms has proved to be a very satisfactory solution of a difficult machining operation.

Grinding is done in a simple fixture arranged to swivel in a vertical plane for loading the work on the Cincinnati No. 2 centerless grinder. The work is held by a quick-acting clamp and U-shaped washer, lowered into place on the grinding support blade, and is ground by the infeed method. Some end play is provided in the trunnions to allow for movement of the regulating wheel and variations in the work. The rotating fixture is mounted on ball bearings. The 20x1½x12x12-inch 80-KC Aloxite rubber-bond grinding wheel is trued satisfactorily by a radius truing attachment.

By this method of grinding it is said to be possible to remove 0.005 to 0.007 inch of stock in one cut and to produce 190 pieces per hour with a good commercial grinding finish.

PERTINENT POKES and PARRIES

By HERBERT CHASE, Engineering Editor ◆◆ BY READERS

Streamline Hoax

When automobile history is written, say ten years from now, the great streamline hoax will be the outstanding event of 1933. In the clear eyes of retrospect, it will be correctly appraised as one of a series of conspiracies for artificially hastening obsolescene following the free-wheeling swindle, the low-down delusion, gage-mania and the peek-a-boo radiator craze.

Of course the same historians will also record the real advances made during this time in the way of elastic suspension of component parts, independent wheel suspension, self-changing transmissions, automatic adjustment and regulation of the spark, the choke, cooling rate, oil viscosity, manifold heat, shock absorber action, etc. It is even possible that before long they may be able to record some first beginnings in real streamlining.

As it is today, so-called streamlining is a barefaced fraud. About five years ago when we first began to discuss this subject and the rear location of engines, as a result of Dr. Rumpler's ill-conceived and ill-fated experiments, I made the statement that we were apparently running our cars backward. In the last few months others have announced the same discovery; but manufacturers are still trying to split the wind, let the air-wake eddy where it will.

More than half the experiments and studies of the subject have been devoted to front-engine chassis and all of them perpetrate or perpetuate the following fundamental fallacies:

1—They disregard underside fairing. This accounts for at least 30 per cent. of the air drag.

2—They disregard radiator and underhood air flow. Not only production automobiles, but many wind-tunnel models are designed as though the radiator grill were a blind surface instead of a particularly vicious form of multiple air claw. Calculations of air flow and resistance take no account of the large amount of air which flows through the radiator, past the fan, and around the engine to escape after much difficulty through eductor openings of some sort placed where slip-stream interference is at a maximum.

3—Wheels are assumed to be solid and stationary in all wind-tunnel tests, or mathematical assumptions; yet a turning spoked wheel presents entirely different characteristics; being in fact an inefficient centrifugal pump operating in a bad scroll (the fender) which sets up additional impedance.

4—Fenders are represented as thick bodies, fitting the wheels closely, instead of which they are thin with sharp edges, and have big suction cavities. Of course, the now undeservedly popular skirted type are virtually wind-brakes or anchors, though some of our school laboratories have not been above modelling them as solids and claiming reduced resistance in the wind tunnel.

5—All wind-drag tests have been either in a wind-tunnel or in still air on the road, thus assuming a full headwind not to be encountered in actual driving one per cent. of the time. Most of the time, therefore, the wind will be quartering and will consequently have quite different effects than anticipated; not the least of which will be the formation of a powerful suction on the lee side to make steering uncertain.

6—All prognostications regarding economy have been made on the assumption of uniform high speed and a level road. The Indianapolis racers are better streamlined than any car I should care to drive and they are extremely light. Still, I never understood that they were particularly economical, even though comfort, long life, ease of maintenance, roominess and many other things have been sacrificed. It requires twenty pounds net tractive effort per ton for each per cent. of grade, streamlining or no streamlining, and acceleration up to 35 m. p. h. is again a matter of power-to-weight regardless of the tinsmith.

I like to drive fast, and I wish I lived in one of the small cities of the Middle West, where some of the streamline enthusiasts do, so that I might safely indulge my tastes in that direction. But I live, as most motorists do, in a section where the hills, the winding roads, the traffic congestion and the quaint ideas of law-enforcement keep me below 45 m. p. h. 90 per cent. of the time. With a lower maximum speed, hill-climbing ability and acceleration assume increased importance. As a result, my car is overpowered, as most modern cars are. No bulbous tin jacket around my car is going to make a smaller power plant adequate. Even if it did reduce wind-drag at high speeds—which is not proven with respect to actual automobiles—I would remain unimpressed, because I can drive at such speed so little of the time.

Furthermore, a slight saving in fuel consumption at these occasional high speeds would be a very poor recompense for the loss of compactness for parking, accessibility for maintenance and secure steering at high speed.

Away with fake models, inductive theorizing, wind-tunnels and road tests by instructed experts. I have seen too many spark intensifiers, carbureter speedlers, etc., sold that way. I have not forgotten the alleged economy tests which hepled foist free-wheeling on the public.

Let us un-muddle our thinking and realize that just as cooling an engine running along the ground at sea level with only a dinky tin fan to move the air is a very different thing than one in an airplane, operating in the cool upper air, exposed to the blast of a propeller absorbing the full engine power, so also the streamlining of a motor car differs from that of an airplane.

MERRILL C. HORINE,
Sales Promotion Manager, Mack-International Truck Corporation.

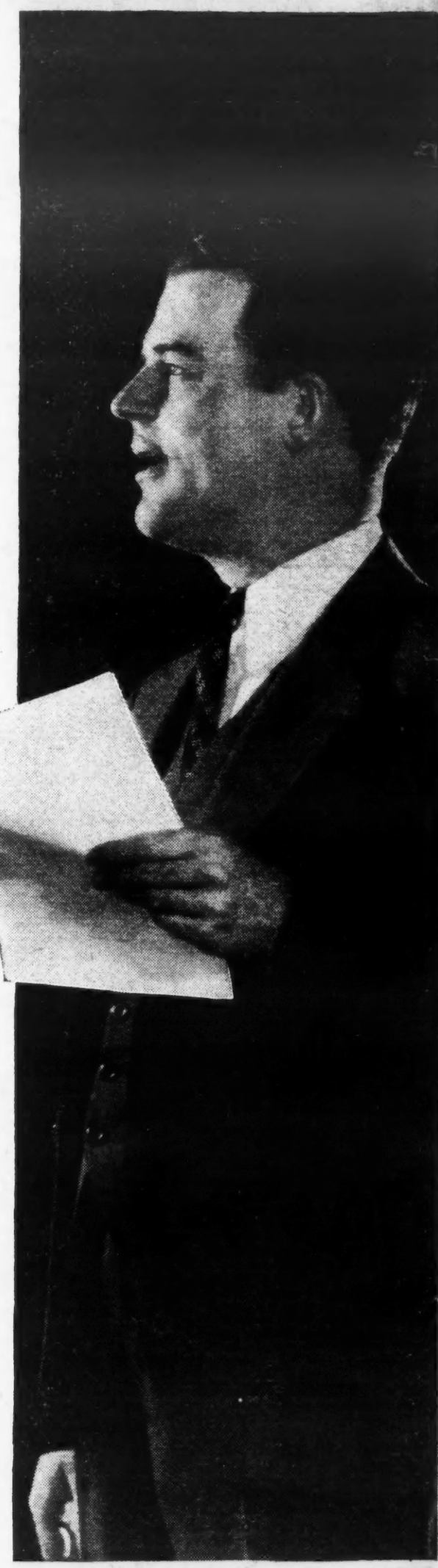
MULLINS MANUFACTURING INCREASES WAGES BY 10%

Youngstown, O., May 24.—The Salem plant of the Mullins Manufacturing Company has increased by 10 per cent. the wages of 550 men now working on automotive parts and similar piecework. This company now has more than 800 men on its payroll. Since March, more than 400 workers have been recalled to the colors.

C. C. Gibson, president of the Mullins organization, in announcing the wage increase, said that his company was giving back part of the savings that have been made possible in recent years by the loyalty of its employees. Business at present, Mr. Gibson said, was largely on a hand-to-mouth basis, but there is no sign of an early decrease. Automotive buying is one of the principal factors in the increased output.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

NASH WILL ANSWER "HERE"



Many have felt called to manufacture America's motor cars, *but few have been chosen.*

806 names appear on the roll of cars that at one time or another have been offered for sale to the motorists of these United States. Today only 32 names remain and ten of those are products of two manufacturing groups. Actually, there are no more than 20 American manufacturers producing passenger cars at this moment!

Only the echo answers when the roll is called and the names of the others are called. Twenty survivors answer, "Here".

Nash is one of the twenty. Nash answers, "Here", exactly as Nash has answered for 17 years, *and exactly as Nash will continue to answer for years to come!*

A sound financial structure*... five lines of rightly-priced, quality motor cars available under a single franchise ... seventeen years of straight thinking and straight dealing... all these contribute to your complete assurance that it's safe and sane to sign up with Nash. Address your letter to the Sales Dept., Nash Motors Co., Kenosha, Wis.

**The Nash financial statement as of March 1, 1933 shows cash and government securities in excess of $31,000,000.*

ONE FRANCHISE MAKES ALL FIVE NASH SERIES AVAILABLE TO NASH DEALERS

BIG SIX	STANDARD EIGHT	SPECIAL EIGHT	ADVANCED EIGHT	AMBASSADOR EIGHT
116-inch Wheelbase	*116-inch Wheelbase*	*121-inch Wheelbase*	*128-inch Wheelbase*	*133 and 142-inch Wheelbase*
*$695 to $745	*$830 to $900	$965 to $1095	$1255 to $1575	$1545 to $2055
*4-Door Sedan	*4-Door Sedan			
FOUR BODY STYLES	FIVE BODY STYLES	SIX BODY STYLES	SIX BODY STYLES	NINE BODY STYLES

All prices quoted f. o. b. Factory—Special Equipment Extra

(4559)